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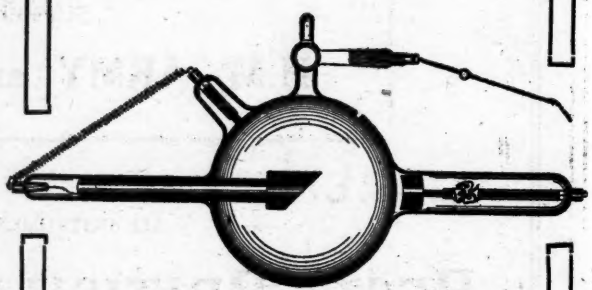

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VOL. II.—4TH YEAR. SYDNEY: SATURDAY, NOVEMBER 3, 1917. No. 18.

RECENT ADVANCEMENT IN PHYSIOLOGICAL AND BIOCHEMICAL TECHNIQUE.[1]

By **W. A. Osborne, M.B., D.Sc.,**
Professor of Physiology, University of Melbourne.

String Galvanometer.

Progress continues to be made in the application of this instrument to cardiac cases. The simultaneous registration of the heart sounds on the same plate as the electro-cardiogram can now be accomplished. Promise of further precision in diagnosing the position of pathological states (*e.g.*, premature beats) is happily not absent. The recent work of Lewis and the statistical treatment by Waller offer much help. It must not be forgotten that the string galvanometer does not compete with the stethoscope. It is concerned only with the contractile and conducting tissues of the heart; but when these are altered secondary to valve lesions, the alteration then becomes visible in the electro-cardiogram. Contrasted with the polygraph, the string galvanometer, once it is installed, is exceedingly simple to work. The records show much greater differences between the auricular (atrial) and ventricular responses, so that confusion is not liable to occur, and, most important, the position of the pathological state can be approximately ascertained.

Colorimetric Estimations.

The great increase in the use of colorimetry in the medical sciences dates from the discovery by Folin of a method for estimating creatinin. The simplicity of the technique has led to a great deal of work on the metabolism of creatin and creatinin, more in my opinion than the importance of these bodies warrant.

The physicist lays down two important rules for colorimetry: (1) Each field should be uniform. (2) The fields compared should be in optical contact. Unfortunately, each of the hæmoglobinometers at our disposal violates one of these rules—some, indeed, violate both. The tubes in Haldane's hæmoglobinometer should really be square in section, and should be separated from each other by the thinnest partition possible, or should be brought into contact by an optical device. On the other hand, Haldane has laid down an important law for colorimeters, which physicists have ignored, and which is based upon the well-known phenomenon of retinal fatigue. In the ordinary colorimeter one field is a standard, whilst the other field is adjusted to equal this standard. Haldane has pointed out, what every physiologist will confirm, that the standard field, though a physical fixture, is physiologically shifting, through fatigue of the retina. Hence the fields compared should be frequently interchanged. It is a pity that colorimeters should continue to be turned out with this error uncorrected. Fortunately, by turning the instrument round, or by employing the eyes alternately, it can often be obviated.

[1] Abridged from a Paper read at a Meeting of the Victorian Branch of the British Medical Association on October 3, 1917.

The best of all colorimeters is the spectro-photometer, in which the light passing through the coloured medium is dispersed by a prism and the coefficient of absorption, or extinction-coefficient, of the medium determined for any wave length desired, preferably for that critical spectral region where absorption is most pronounced, *i,e.*, absorption band or bands. The ordinary colorimeter estimates the amount of light that has come through; the spectro-photometer estimates the light that has been absorbed, and this for sharply-defined regions of the spectrum. Strange to say, this instrument has not made much headway in physiological and biochemical laboratories, though one of the earliest and best forms was invented by the biochemist Hüfner. Hüfner's instrument has been modified and improved by physicists in England. The König-Maratens spectro-photometer (exhibited) is certainly a beautiful apparatus, though I have nothing but pleasant memories of the Hüfner form, in which I was trained.

There are two pitfalls in colorimetric work about which not enough has been said in recent biochemical writings. One is that depth of colour and concentration of coloured body in solution, when they vary, do not run perfectly parallel, owing to the formation or breaking-up of complexes, such as hydrates, valency changes, or internal molecular re-combinations. Also in the case of colloids the size of the unit, and hence its power of scattering light, may vary with different concentrations. I leave aside the ionic theory of colours, as it seems now to be discredited in physico-chemical circles. Fortunately, in our work high dilution is the rule, and the variations in concentration are small, and so these errors become negligible. The other danger is a more real one; it is that the coloured body produced is unstable, and may be gradually oxidized into a colourless leuco derivation or otherwise changed chemically. Too little attention has been paid to this in the recent enthusiastic application of colorimetry to biochemical quantitative work. If the coloured substance is unstable, the estimation has to be made rapidly, if it is to be of any service.

A wise departure in recent colorimetry has been to discard standard tints other than those given by controls, that is, weighed amounts of the actual substance itself. Thus, potassium bichromate as a colour standard in creatinin estimation has been supplanted by creatinin itself, treated with the same reagents used for developing the colour in the fluid investigated. Similarly, Haldane's hæmoglobinometer, using dilute CO blood is superior to other forms, where a standard tint is given, other than the blood itself. The reason for this is to be found in the extremely variable powers of different retinæ in judging colour. A substance like carmine or potassium bichromate may, in some eyes, be a perfect match for a particular colour developed in biochemical analysis, but in other eyes differences are visible and comparisons impossible.

Colorimetric estimations can be made of the following important substances: ammonia, amino acids, crea-

tinin, chloesterol, adrenalin, hæmoglobin, uric acid, sugar and various metals including iron,[1] also from grades of acidity with suitable indicators.

Nephelometric Estimations.

When a precipitate is produced, the particles of which are uniform and sufficiently small to be kept in suspension, the haze or cloudiness observed can be used for quantitative work. With most eyes differences in haziness can be appreciated within finer limits than differences in depth of tint. Nephelometric estimations, therefore, have lately gained ground, at the expense of colorimetric. But uniformity of precipitate is essential. Dr. Pern, in this laboratory, has at last, after nearly four years' patient work, devised a simple method for the nephelometric estimation of calcium as oxalate, not in the ordinary crystalline form, which is far too coarse, but in a very fine suspension, whether crystalline or amorphous has not yet been determined. Good results can be obtained, as Dr. Pern has shown, by using simple flat-bottomed tubes of even bore. I await with interest the Kober nephelometer-colorimeter, which, from its design, seems to be an admirable instrument. Nephelometric estimations can be made of the following: proteins in milk, urine, and cerebro-spinal fluid, uric acid, fat, lecithin, acetone, aceto-acetic and oxybutyric acids, chlorides, ammonia, phosphates and calcium.

Estimations of Acidity.

The indicator method has been the subject of much investigation, and an ever improved "ladder" of indicators has resulted. With such a ladder and a set of standard acidic mixtures, a quick estimation can be made of the limits within which lies the acidity or alkalinity of the fluid investigated. I have personally little experience of this system, as the electrical method always appealed to me as more precise; but I can well believe that the indicator ladder may have an extended use in the near future. It is easy to apply, and the reagents are portable. Unlike the electric method it can, therefore, be employed apart from delicate and complicated apparatus, and can be truly called clinical. The war put a temporary stop to the purchase of the dyes necessary in this method, but America has recently come to the rescue. With these American-made indicators a range of acidity can be covered, from a normality of $10^{-1.2}$ to $10^{-9.6}$; that is to say, from an acidity slightly greater than that of gastric juice, to an alkalinity much greater than any body fluid possesses.

The electric method of estimating acidity is one of the most difficult procedures in the whole range of biochemical investigation. The physical chemist deals with clear homogeneous solutions, free from colloid or suspended matter. Our chief substance is the highly complex blood. The chemist has generally no concern about carbon dioxide; with us, this gas is often of critical importance as an acid maker. Hence it is that the greatest refinements in technique have arisen in biochemical laboratories, though full credit must be given to certain physical chemists, such as Dr. Walpole, a Melbourne graduate in chemistry, whose researches, however, have appeared chiefly in biochemical journals and have emanated from a biochemical laboratory. In this laboratory we employ a modification of the Walpole electrode devised by Dr. Lewis, a Melbourne graduate in dentistry, who has devoted much time and energy to this difficult subject. You will understand that the voltages measured are small, so a standard cell, a reliable accumulator and a good potentiometer are necessary. Thermo-electric currents and variable resistances at contacts, due to grease, are sources of trouble not usually recognized. We have determined here to follow the advice given by my colleague, Professor Laby, and solder every union that can be soldered. But it is in the electrode that the main difficulty resides. Should one use minimal contact, such as the end of a fine platinized wire, or a broad contact, such as platinized foil? Dr. Lewis has recently been getting consistent results with the fine wire just touching the fluid. That he is not dealing with a purely local equilibrium he has demonstrated by having a second wire in the same electrode tube. This second wire, if platinized at the same time as the first by means of a third wire not used as electrode, will give an identical potential. Some time must elapse, I think, before the electric method is anything but institutional in its service. But I am convinced that a great future is before it.

The main application of this or the indicator method is, of course, to be found in the blood. This may show a decided rise in acidity—a veritable acidosis. But more important than this, is to find out the earlier stage before the acidity has risen appreciably, and before any alteration can be detected in the alveolar air; such a stage is that when the "buffer" reserves of the blood are almost used up. Healthy blood plasma will allow a considerable addition of acid, and yet show very slight rise in acidity. But when the "buffer" protective mechanisms are strained, the acidity may be practically normal, or raised only within the limits of experimental error. Such a condition is dangerous, and its diagnosis accordingly important. The principle of the method of testing this "buffer" power is to add definite quantities of dilute standard acid, say $^{N}/_{50}$, and note the increase of acidity.

Micro-Gas Analysis.

It is a decided feather in the cap of physiology that it has elaborated the technique of gas analysis to a fine art. Under Haldane, Barcroft and Krogh the methods for quantitative determination of gases have steadily improved. We are much in Dr. Barcroft's debt for introducing a technique that allows us to deal with small quantities without that large range of error which too often detracts from the value of micro-methods. Besides the acidity test already mentioned, a second way of getting at the buffer property is to measure the total CO_2 carrying power of the plasma. It is obvious that the greater the buffer reserve, the greater is the mass of CO_2 which the blood or plasma can hold. The actual CO_2 of the plasma exposed to a certain pressure of this gas, say that of alveolar air, can be measured by the Barcroft or the van Slyke apparatus with comparative ease.

Physiological Saline.

The relative success obtained in using isotonic sodium chloride solution has had a rather inhibitory action in the clinical adaption of improved methods.

[1] See Gradwohl and Blaivas, "Blood and Urine Chemistry," 1917.

Dr. Ringer, himself a clinician as well as experimenter, first drew the attention of physiologists to the importance of calcium. We have now Locke's solution, where the proper "metallic balance" of the blood is maintained. The activity of the kidney in preventing the least divergence from this metallic balance of the blood (the evolutionary importance of which has been so luminously discussed by Macallum) shows how important it is for the animal economy. A slight defect or increase in any one salt will have far-reaching effects, and every effort will be made by the body to correct the error. Dr. Sydney Patterson showed in this laboratory that if calcium were deficient in the food, the blood still kept up its proper calcium ratio, and drew on the bones for its supply.

Properly-balanced iso-osmotic saline solution has, however, three defects: (1) There is nothing to balance the osmotic power of the proteins in the tissues, and hence fluid is attracted and the tissues become more or less œdematous. This is well shown in perfusion experiments. (2) The viscosity is too low, hence saline slips too readily through the arterioles and capillaries. (3) It has been stated that corpuscles readily break up in ordinary saline solution, but not in saline made viscous with some suitable colloid addition. To get rid of these three drawbacks a number of suggestions have been made as to what should be added. Bayliss, in a recent investigation,[2] has declared his preference for 6% gelatine properly sterilized, or a 7% gum acacia deprived of its excess of calcium. Whether these can be safely employed on the human subject will be shown in the near future.

THE STUDY OF HEART DISEASE:
A Clinical Lecture.

By **Alex. Lewers, M.R.C.S. (Eng.), L.R.C.P., D.P.H. (Lond.),**
Senior Honorary Physician, St. Vincent's Hospital, Melbourne.

To offer any remarks upon heart disease at the present time without supplementing them by the exhibition of graphic records is in danger of being regarded by the majority as more than somewhat out of date. While the introduction of such methods of observation has thrown much light upon the mechanism of cardiac action, it cannot be claimed that they have as yet been of material assistance in the treatment of disordered cardiac function. It is an increase of knowledge to recognize that an arrhythmia depends upon a stimulus originating in an abnormal situation, but so long as no explanation is forthcoming as to the reason for the abnormal change, it is clear that no very rational suggestion can be offered for treatment. Not infrequently the realization that one is a generation behind the younger experimental enthusiasts of one's environment, rstrains any reflections based upon experience, and it is comforting to be able to quote from a paper by Dr. Seymour Taylor in the *Lancet* of July 15, 1916, a sentence that shows such a feeling to be not merely personal. "As one lives longer and sees more cases and also registers the results of treatment, or the failures and successes of prognosis, one becomes more impressed with the value of clinical experience, as against the theories of the laboratory or the seductive whisperings of a physiological instrument."

The greatest practical benefit from the work of Mackenzie, and his school, has been to draw the attention of the present generation to the fact which Sir William Broadbent and others had impressed upon a previous generation, that the prognosis and treatment of heart diseases is apparently still little understood from any rational standpoint, and that the majority are disposed to accept the conclusion that "rest and digitalis" are the only necessary, or indeed the only available, weapons at the disposal of the practitioner.

It is not difficult to realize how such an attitude becomes diffused and perpetuated among the general practitioners of medicine. In speaking to students, it has always been my custom to point out to them that they are apt to acquire an entirely wrong perspective of heart diseases from a consideration of the cases they meet in the medical wards. These are almost all examples of advanced valvular lesions or declared myocardial failure, with all the accompanying train of secondary symptoms.

Nothing is more calculated to depress and chill the youthful spirit, eager for "results," than the spectacle of the patient propped up with a bed rest, blue, breathless, and water-logged, and referred to in the argot of the wards as a "heart case." And it is this picture that remains stamped upon his memory, and reappears dimly at the back of his mind when he detects any abnormal signs in any heart, and prompts the conclusion that there is only one end to the finding, and that treatment is of necessity perfunctory, or the equally hasty generalization that treatment must be immediate and minute and meticulate, in order to stave off the inevitable final disaster.

This mental attitude of the hospital student is also partly brought about by the fact that in his textbooks he is accustomed to read of heart disease as though it were a distinct entity, which called in every case for routine remedies. Mitral regurgitation, for example, is spoken of as though it were a distinct disease. It is convenient to do so for the reason that a certain train of symptoms is associated with mitral regurgitation, which is constant and familiar, but it is frequently forgotten that mitral regurgitation may exist without any of the signs of "back working" which make up the recognizable picture. So it is with the other valvular disorganizations. The classical symptoms are mainly of mechanical production, though, of course, it is probable that circulating toxins also have a part to play in the production of dyspnœa and dropsy, which are usually regarded as purely due to deranged circulation.

The first truth necessary to grasp for the rational and successful study of the prognosis and treatment of affections of the heart is that the heart is extremely rarely the sole centre of disease. At the same time, it is consistent in practice to regard certain cardiac conditions as distinct entities, both for the reason already indicated, that certain symptoms are clearly cut, and that these are the symptoms from which the patient seeks relief; and for the further reason that certain changes in the heart structure are fairly constant, and enable the progress of the malady to be estimated.

[2] *Proceedings Royal Society*, B., Vol. 89, 380, 1916.

Cabot has reminded us that 90% of heart lesions fall under four great groups: (1) Rheumatic, (2) Renal, (3) Arterio-sclerotic (includes senile heart), and (4) Syphilitic. A recent examination of the records of 111 cases, which were under my own care consecutively in the wards at St. Vincent's Hospital from 1909 to 1913, supports such a statement.

Rheumatic cases are classed as those in which a history of one or more attacks of rheumatic fever were recorded. Syphilitic are those in which there was an aortic lesion prominent, or in which the specific condition was verified at autopsy. Renal are those with no valvular lesion, or with very high blood pressures as well as a lesion, and albuminuria. Arterio-sclerotic are those high pressure cases without albuminuria, and including senile heart.

Rheumatic cases totalled twenty, and six of the patients died in hospital at various ages. Two cases which came to autopsy were in females of 18 and 21. Both were instances of acute ulcerative endocarditis, which were recognized during life and treated by vaccines.

Syphilitic cases were eighteen in number; eight patients died. Three ruptured aneurysms were present at autopsy, and one was shown by X-rays during life. A fourth showed intense atheroma, with extensive dissecting aneurysm.

Renal cases were twenty-four, which appeared beyond question, and thirteen probable.

Arterio-sclerotic represented twenty; three patients died; and "other" cases numbered sixteen, of which four ended fatally.

It may be conceded without argument that such a classification admits of a considerable margin of error. It is only put forward in the present instance to emphasize the fact that there are at least four great pathological causes which have some common factor determining cardiac changes and degenerations. What is that factor? When we can see it more clearly, we shall be nearer to the effective recognition and treatment of heart failure than ever before. And there need be no denial that it is the longer way. But it must be insisted that the approach towards prognosis and treatment of chronic cardiac lesions will continue to be much more profitably made along such a road than by the study of any number of graphic records which concentrate the attention upon the heart alone, or even upon a single phase of cardiac action.

Nor is there any need to feel that in following the older physicians, no advance towards greater accuracy or probability of success is possible. There are modern aids which are of the greatest practical value in certain cases, and are applicable to all. The first is the assistance given by X-ray examination, in which the graver cardiac changes are recognizable. The second is the information to be derived from a Wassermann test performed by a reliable observer. Thirdly, there are numerous clinical methods of estimating the efficiency of the renal function, which were altogether unknown to a preceding generation, and the manometer affords an easy means of determining any notable increase of arterial tension—a factor not always easily decided by the finger, in spite of the opinion of some authorities to the contrary.

Consciously or unconsciously, the enthusiastic followers of the newer cardiac terminology lead the reader to believe that the guiding principle of prognosis is the condition of the heart muscle, and that, mainly, in relation to its conductivity. There are two misapprehensions apparently widespread among the younger practitioners of medicine at the present day. One is that Mackenzie was the first to consider the condition of the heart muscle as the important factor in prognosis. A reference to Broadbent's "Heart Disease" (p. 79) will suffice to dissipate such an idea, and there are doubtless many others for the seeking. The other is that Mackenzie's phrase, "The field of cardiac response," connotes an entirely new idea in the prognosis and treatment of heart affections. Broadbent (*loc. cit.*) wrote twenty years ago: "Nothing can be worse than to debar all patients who are found to have valvular disease from games and vigorous exercise, and to forbid them to go upstairs, or to walk uphill, and on no cases do I look back with greater satisfaction than on those, and they have not been few, in which I have liberated boys and girls from such orders. In the class of cases under consideration, supposing a sufficient time to have elapsed after the acute attack for the necessary compensatory changes to take place, a girl may be allowed to take long walks, to play lawn tennis, to ride, cycle, swim and dance, and a boy to play cricket and racquets, to hunt, row, box, and fence, provided that these exercises are not attended with undue breathlessness and distress, and that they are entered upon gradually and practised with moderation and discretion."

The real question of importance, however, is one that is common to the efforts of both older and more recent observers: How can the prognosis and treatment of cardiac affections be improved?

The newer cardiologists some years ago confidently concluded that they would presently be able to throw aside their stethoscopes. The profession in general has, after several years' experience of graphic methods, become satisfied that no essential help has been derived by their use in substitution for a stethoscope, which is the more convenient method of examination. The truth is that a real advance will come from a combination of many different methods of investigation.

It is just a little discouraging at present to notice the autocratic and "superior" tone assumed by some of the later investigators. In the *Lancet* of July 21, 1917, Dr. T. Lewis adopts a most infallible attitude in insisting that the beneficial action of digitalis in auricular fibrillation is due to the fact that it increases heart-block. Surely this is altogether too narrow an explanation to supply the truth. In other language, it is the favourite formula of comfortable words that "digitalis depresses the conductivity of the bundle of His." This simple statement appears at first sight so eminently satisfying. But at best it is no more than a theory, based upon theories. Its sole claim to acceptance over the theory that digitalis has a general stimulant effect on heart muscle seems to rest in the fact that the bundle of His is a fact capable of demonstration. But its "conductivity" is

pure theory, and its interrupted conductivity in relation to the production of heart-block is discounted by the further fact that cases of heart-block examined at autopsy have shown no alteration in the bundle at all. This is neither the time nor place to enter on disputation, but the object of the lecture will have been gained if it emphasizes the attitude that the real advance in the treatment of heart diseases will come as much or more from their study as part of a general condition as from the meticulate attention to the state of the heart muscle; and that both studies are capable of being carried forward side by side, without bitterness of spirit and sarcastic comment.

A FURTHER CONTRIBUTION TO THE EXPERIMENTAL STUDY OF FEVER.

II.—BURNS.

By **J. Leon Jona, D.Sc. (Adel.), M.D., B.S. (Melb.).**
(From the Physiological Institute, University of Melbourne.)

In continuation of the work done with bacterial pyrogen (Jona, 1916)[5] [6] it was considered advisable to attempt to correlate the well-known clinical facts of pyrexia and collapse seen in cases of mild and severe burning, respectively.

C. S. McKee (1915)[7] has shown that in certain septicæmic conditions, in all severe burns, and in many cases of shock, the urine is definitely hæmolytic. M. Heyde (1912)[2] has shown in the urine after burns, in rabbits, a choline-like body and methyl-guanidine, which are allied to certain putrefactive bases found in the intestine by Barger (1913).[1] Pfeiffer (1905)[8] and Raysky[9] showed that a toxin is produced in cases of burning which produces a weak, round-celled infiltration and some hæmorrhage in the respiratory and alimentary mucosæ, and often necrosis of the kidney due to the effort to excrete toxins which, in these cases, gradually accumulate in the blood.

In the present research, weighed amounts of shaved skin and muscle of rabbit, dog, and ox were taken, minced or flaked, and subjected to various temperatures ranging from 100° C. to 200° C., and then extracted with water, saline, or Ringer's solution and injected into rabbits (intravenously) or dogs (intraperitoneally). These experiments were commenced over three years ago, but I have not been able since to carry out a long series, so I am now publishing the results obtained in those I have so far performed.

With the quantities used in these experiments, no constant definite reaction was obtained with the muscle heated to 100° C., but in some cases a definite rise in temperature without any general symptoms was obtained. After injection of extracts of muscle heated to 150° C., a small degree of body reaction (constipation or absence of desire for food, or definite appearance of being ill) was obtained, though no consistent pyrexial reaction was obtained, with the doses used. The animal injected with an equivalent dose of extract of muscle, which had been heated to 200° C. went off its food, had diarrhœa (with blood in the stools in many cases) and gave a rise in body temperature. These symptoms are analogous to those seen after a moderate dose of bacterial pyrogen.

No differences from normal were noted in cases where extracts of skin, heated to 100°, 150° and 200° were injected. Difficulties owing to formation of gelatine were encountered here, so only small doses were given.

Over the range of temperature tried (100° C. to 200° C.) it was found that keeping muscle (flaked or minced) in the oven for 10 minutes gave (within experimental limits) the same reaction as preparations kept in for periods up to three hours, though a more definite and greater effect than was obtained by merely scorching for a few seconds with a Bunsen burner.

Injections of various proteins and protein-containing substances, *e.g.*, albumin from eggs (Merck), casein, hæmoglobin, gelatine, maize meal, before and after heating to 200° C., were tried, but no definite results were obtained, though albumin consistently gave more definite reactions than the others.

The effects of injecting extracts of liver which had been heated to 100°, 150° and 200° C. were similar to those obtained by injecting extracts of muscle similarly treated. No doubt, extracts of other cellular organs would give the same results. No experiments were tried with whole blood, blood plasma, blood serum, or red or white corpuscles, but I hope to try these as well as the proteins again at some future date.

Injections of Merck's guanidine nitrate (suggested by Heyde's results, *supra*), in doses from 0.01 gm. to 0.000001 gm., gave much the same pyrexial reactions as injections of bacterial substance in doses of from 0.002 gms. to 0.0000004 gm. bacterial substance contained in a bacterial-sulphate powder containing approximately 4% bacterial body obtained in an earlier research (Jona, 1916)[5] (Charts 2 and 4). In all the above experiments it was found that the best results were obtained by making suspensions of bacteria or tissues in distilled water or 0.9% NaCl solution in distilled water. If ordinary saline or Ringer's solution were used, and especially the latter, conflicting effects were obtained. This was also noted by Hart and Penfold (1912).[3] Experiments performed to determine the effect of calcium on the pyrexial action of a *bacillus coli communis* broth culture showed definitely that the presence of 0.8% calcium chloride will completely mask the pyrexial effect of the organisms in small or large doses. This is an aspect of the subject, also, which it is proposed to pursue further at a later date. It certainly appears to have a definite clinical bearing.

The bowel ulceration after burns may be related to the definite gastric and duodenal erosion seen after the administration of neutral oxalates (by the mouth), which rob the mucosa of calcium salts.[4] This will be referred to later in a report of experiments relating to duodenal ulcer in which the effects of extracts of burnt muscle and other substances on blood-pressure and the secretion of pancreatic juice will be dealt with.

My thanks are due to Professor W. A. Osborne for his kindness and courtesy, and for placing his laboratories and staff at my command.

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Reviews.

SHELL SHOCK.

Professor Elliot Smith has turned from anatomy to collaborate with Dr. Pear, Lecturer in Experimental Psychology at Manchester University, in writing a book on "Shell Shock."[1] The book is interesting, popular in style, and has two aims.

The first aim is to direct attention to common sense, albeit not new, means of treating "shell shock." It is indicated that "shell shock" is in the main an emotional disorder, therefore the patients should be taken in hand early, segregated in special hospitals under special physicians, promptly given to understand their strange symptoms, addressed with firmness and sympathy, their confidence secured, their mental state analysed and every legitimate means used to get to the root of their trouble. In a limited number of cases hypnotism may help, but conscious suggestion is the main factor. From which it is plain that the writers have absorbed the doctrines laid down by Dejerine and Gauckler in their classical work on the psycho-neuroses, from which they freely quote.

The second aim of the book arises out of the first, and is the painful one of pointing out that British methods of treating the mentally afflicted are neither humane nor rational. In particular, the writers deplore the almost complete absence of provision for the early treatment of incipient and undeveloped insanity, and they show that, in other countries, the establishment of proper hospitals and psychiatric clinics, and facilities for specially educating the medical profession, have been attended by most desirable results, particularly in reducing the admission rate to ordinary institutions. That these grievances are real is emphasized by quotations from reports of the Medico-Psychological Association of Great Britain and the writings of Bedford Pierce, Rows and others. The authors use forceful language, and perhaps see prospects brighter than ever will obtain, but they unquestionably show many faults, which legislators and lunacy administrators will sooner or later be asked to correct.

WAR SHOCK.

By "War Shock"[2] Dr. Eder means hysteria (symptoms of what has become known as "shell shock") arising from war conditions in persons free from hereditary or personal psycho-neurotic antecedents, but with minds more reponsive to psychical stimulus than normal. Should there be neuropathic antecedents he would call the condition "non-war shock" and compare it with the psycho-neuroses of civil life.

Dr. Eder's main experience was gained at Malta, during the Gallipoli campaign, where he was entrusted with a psycho-neurological department, and where, by the way, he treated some Australian patients. He is a disciple of Jung and Freud, having translated their works into English, and he has studied his cases according to the doctrines of these writers. Thus he makes a division into (*a*) conversion hysteria (Freud), wherein the somatic disturbance focusses the attention of the observer, and (*b*) anxiety hysteria, wherein the psychical elements claim pre-eminence. Conversion hysteria embraces anæsthesia and motor disturbance, disorder of speech, amblyopia, deafness and tics; while anxiety hysteria takes in the various phobias, the exhaustions, the cases of insomnia and headache. These are generally accompanied by vaso-motor symptoms, which may affect any physiological system, giving the soldier's heart, or respiratory difficulties, or diarrhœa, or sweating, or tremors, or even signs of hyperthyroidism.

All these phenomena he discusses from the psychological aspect, and though Lord Mansfield's advice to the newly-appointed judge—"Give your verdict, it is pretty sure to be right; never adduce your reasons, they are equally sure to be wrong"—might in places be turned against him, especially by those unacquainted with Freud's teaching; he, nevertheless, attacks his subject in a scholarly manner, and frames his reasoning in language which it is a pleasure to read.

When we come to treatment we find strong advocacy for suggestion under hypnosis; by this means Eder claims to have cured 79 of the 100 cases which he observed. Treatment on "rational and common sense" lines, as advocated by Elliot Smith and others, he puts as of secondary importance; hydrotherapy and massage as of tertiary importance; and, as to psycho-analysis for curative purposes, "it would be like taking a Nasmyth hammer to crack a nut." While it is certain that a considerable number of his cases might have been cured by other means, it must be conceded that he makes a strong point when he says that hypnotism cures rapidly. And, regarding prognosis, he rightly considers that only true cases of "war shock," that is, those without hereditary taint, can be fitted for return to the fighting-line. But it is to be regretted that he has not discriminated more between the conditions following concussion and those spoken of as "shell shyness," so differentiated, even by the War Office, who allow the former to wear wound stripes.

Though written under pressing conditions, the book stands out, by reason of its originality, and should be read by all interested in the psycho-neuroses of war.

DIGESTION.

Dr. Austin's book on the diseases of the digestive tract[1] is what may be termed a full-dress consideration of the various stomach and bowel affections which appear as distinct entities. The author is apparently well-qualified to undertake his task, and the book has many excellent features, especially for English readers. It is not aggressively American in spelling, and the general tone of the advice is in accordance with the more conservative attitude of British teaching. The book is divided into three sections: (1) general characteristics, (2) special gastric diseases, (3) special intestinal diseases; and of these the first portion is the most evenly-balanced and complete. Under the second heading the consideration of gastric ulcer is scarcely as well done as it might have been, and there is no mention of Bolton's work on the subject. In the intestinal section there is also evidence of unequal treatment of some conditions, duodenal ulcer being allotted about the same space as arterio-sclerosis of the intestine, which latter affection seems to have been copied from some German author. The description of the various forms of enteroptosis is well done and commendably restrained as to their management. There is nothing novel in the work, and it is impossible to say that there are not other treatises on the same subject which have a better claim to perusal, but those in search of special information on the gastro-intestinal affections will find much of interest in the writer's conclusions. The book is illustrated by a number of very excellent skiagrams, but whether by accident or design they are all printed as negatives, and the reader has to reverse the picture mentally, which is needlessly confusing. There are also some coloured plates, but these do not call for special notice. It may not be out of place to remind the author of this book that much work in gastro-intestinal diseases has been done outside Germany.

[1] Shell Shock and its Lessons, by G. Elliot Smith, M.A., M.D., etc., and T. H. Pear, B.Sc.,; 1917. Manchester: The University Press; London: Longmans, Green & Co.; Crown 8vo., pp. 135. Price, 2s. 6d. net.
[2] War Shock: The Psycho-Neuroses in War, Psychology and Treatment, by M. D. Eder, B.Sc., M.R.C.S., L.R.C.P.; 1917. London: William Heinemann; Crown 8vo., pp. 154. Price, 5s. net.

[1] Diseases of the Digestive Tract and their Treatment, by A. Everett Austin, A.M., M.D.; 1916. St. Louis: C. V. Mosby Company. Melbourne: Stirling & Company; Royal 8vo., pp. 552, with 75 illustrations and 10 coloured plates. Price, 25s.

The Medical Journal of Australia.

SATURDAY, NOVEMBER 3, 1917.

The Control of the Feeble-Minded.

Sir Charles Mackellar has performed many valuable tasks in the interests of the community, but no endeavour of his has greater significance nor more far-reaching importance than his intercession for a scientific and rational control of the feeble-minded. We have received an advance copy of his brochure, entitled "Mental Deficiency," a publication containing lessons which command attention. In the course of its pages, he tells the story of the terrible frequency of that degree of mental abnormality which, while not sufficient to justify the certification of insanity, nevertheless leads to criminality and immorality. He faces the difficulty of ascertaining the extent of feeble-mindedness, which is largely due to the fact that the enumeration of the afflicted children has, in the vast majority of cases, been left to teachers and medical practitioners untrained in psychiatric science. While his own personal experience and that of many psychiatric experts justify him in setting up the thesis that there must be a very large number of mental deficients who do not come under State control, he uses the opportunity to urge on the authorities the necessity for the adequate training of medical students in psychiatry. There is ample evidence of the shortcomings of the average medical practitioner to diagnose the various disorders of the mind. This applies with equal force to the medical inspector of school children and to the general practitioner, although the failure of the former is probably of more serious import to the welfare of the community than that of the latter. The remedy is obvious. Incidentally the remedy involves a vital reform, which must bear fruit in lessening the burden of maintaining an ever-growing number of the insane at the public expense and in increasing the chances of recovery of the unfortunate sufferers from disease of the mind. We have on many occasions pleaded for the institution in every large general hospital throughout the Commonwealth of psychiatric clinics, where persons in the early stages of mental disease could be treated by experts, and where clinical instruction in psychiatry could be given to every medical student, before he is permitted to exercise the right of practising his profession. In those hospitals, which are attached to the medical schools, the physicians in charge would be teachers or professors of the universities. Further, the psychiatric clinic, to fulfil its function in an adequate manner, must stand in the same relation to the asylum as the wards of the general hospital stand to the infirmaries or homes for advanced and chronic cases of bodily disease. Until the immense importance of dealing with mental disease and mental abnormality as part of general medicine is recognized, we must admit that the medical profession as a whole fails to discharge its duty to the public in a manner approaching completeness. Sir Charles Mackellar draws vivid pictures of the association of mental defects and vice, and demands measures which will have the effect of checking the tendency toward crime and immorality, at the same time as they prevent the propagation of hereditary influences leading to the multiplication of these disastrous developmental abnormalities. He takes the middle road in his judging of the cause and effect between mental deficiency and vice. While he admits the strong influence of heredity in the perpetuation of the defects, he adduces convincing presumptive evidence that environment plays an important part in determining the behaviour of the unfortunate individuals whose power of resistance to wrong-doing, or whose ability to discriminate between right and wrong is lowered. It is unnecessary in this connexion to strain the point concerning the inheritance of acquired characteristics or the possibility of defining sharply what is feeble-mindedness, what is insanity and what is sanity. These are matters which deserve consideration in the psychiatric clinic and in the determination of the question as to what should be done with a backward child. But in connexion with the matter under discussion, they may be regarded as irrelevant. For the present it is imperative to support Sir Charles Mackellar in his demand for a proper scheme of control of the feeble-minded, from the time the con-

dition first manifests itself, until the individual is carried to his last rest. The task of determining who shall be taken care of, must be left to men who have given this chapter of medical science careful and prolonged study. The time has gone by for these men to be few and far between. There are too many afflicted persons to justify this careless attitude. Every medical student should be trained in psychiatry, and many should be encouraged to take up the subject earnestly, in order that the application of their special knowledge and experience may reduce the amount of suffering and crime due to uncontrolled mental deficiency.

EXTRACT OF OVARIAN SUBSTANCE.

Facts concerning the internal secretions of the ductless and other glands in the human economy are gradually accumulating, but the knowledge hitherto collected is meagre. There is, however, a tendency to seek confirmation of speculative theories from therapeutic observations, unchecked by anything approaching a control experiment. The fallacy of deductions of this nature is not far to seek. It is especially apparent in connexion with what is termed "ovarian organo-therapy," which appears to be becoming dangerously fashionable in medical practice at the present time. It has long been suspected that the ovaries exercise some control over the implantation and development of the fertilized ovum, and that there exists a balancing arrangement between the ovary and the ductless glands. Born first localized the function of hormone production in the *corpus luteum*, on the ground of its histological structure. Experimental evidence has been adduced by Fraenkel and others that the *corpus luteum* governed the condition of the uterine mucosa. Certain observations have been made which render it highly probable that this structure is endowed with the power of internal secretion, and that it participates in maintaining the balance of physiological activity of the various organs and tissues. Of the nature of the hormone elaborated by this structure, or of the kind of reciprocal relationship between the secretion of *corpus luteum* and that of pineal gland or thyroid body, nothing is known. It has been suggested by W. P. Graves[1] that certain connective tissue cells, known as interstitial cells, existing in the ovaries, may be the source of the internal secretion. These cells are morphologically analogous to Leydig's cells of the testes, to which this internal secretion function has also been ascribed. According to Limon, the interstitial cells are derived from the lutein cells of the atretic follicles. In the human ovary the lutein cells do not migrate from the envelope of the follicles. Graves therefore comes to the conclusion that the interstitial cells in many animals and the lutein cells of the atretic follicle are endowed with the function of internal secretion. Attempts have been made to gain evidence of this function by means of therapeutic experiments in various uterine disorders. Desiccated *corpora lutea* of pregnant animals have been administered but have produced toxic symptoms. Having arrived at this point, he, like the majority of other observers, has embarked on a futile search for further evidence of true hormonic action, by the clinical employment of various preparations. Had he continued to study the physiology of the constituent cells of *corpus luteum* and endeavoured to establish some bio-chemical facts, real progress might have been registered. Little attention can be paid to his claim that preparations made from the ovaries of pregnant animals, with the exclusion of the *corpora lutea*, are therapeutically superior to preparations made from the whole ovaries of non-pregnant animals.

The fallacy of the method of attempting to establish the fact of hormonic activity by clinical observation is illustrated with singular clearness by the writings of P. J. Carter.[2] At the annual meeting of the Louisiana State Medical Society this clinician gave an account of the results of treating twenty patients for *hyperemesis gravidarum* with ovarian extract and occasionally *corpus luteum*. He speaks of the phenomenal success of this treatment. He elaborates his treatment and does not hesitate to ascribe the cessation of the vomiting to it. True, he had no physiological explanation to offer in regard to the mode of action. In the discussion, however, several speakers recited experiences which somewhat discount the phenomenal success of ovarian organo-therapy. One speaker told of a severe case which demanded immediate treatment. The patient was removed to

[1] *Journal of the American Medical Association*, September 1, 1917.

[2] *New Orleans Medical and Surgical Journal*, September, 1917.

hospital, and the vomiting ceased before any treatment could be applied. Others spoke of an immediate cure following a change of position, or painting the cervix with a solution of silver nitrate, or giving various harmless drugs. Carter had no evidence of the cause of the vomiting in his patients. His satisfactory results may have been due to the deliberation with which he exhibited the ovarian extract in neurotic or reflex vomiting, conditions which are notoriously responsive to suggestive therapy. It would seem as if it were considerably too early to treat disturbances of this sort with extracts of the sex glands. We need to know something about their internal secretion before this form of treatment can be anything but mere empiricism.

THE NATURE OF GAS POISONING.

When first the Germans employed poisonous gases as an instrument of war, it was stated that the toxic agents were chlorine and bromine vapour. We have no information of recent date in regard to the composition of the noxious vapours now employed, nor of the composition of those gases which are used by the Allied troops in retaliation. There is, however, another form of gas poisoning to which our soldiers at times succumb. This is brought about by the gases liberated from exploding shells. In this case, it is stated that the toxic agent is carbon monoxide. The Director-General of Medical Services of the British Armies in France has issued a memorandum in which he makes the statement that in those cases in which the soldier is exposed to a sufficient concentration of carbon monoxide, small punctate hæmorrhages may be found in the white matter of the brain. This statement is made without reference to the evidence on which it is based. F. W. Mott[1] made a communication to the Pathological Section of the Royal Society of Medicine on February 13, 1917, on the explanation which he has to offer for the production of the punctiform hæmorrhages found in the brains of men who have died of gas posioning. In the first place it is necessary to examine critically the type of case in which these hæmorrhages have been met with, for the validity of the explanation given must depend on the evidence available that the death was caused primarily by inhalation by carbon monoxide. This is all the more necessary, because Mott persists in his assumption that the deaths produced by nickel carbonyl were instances of carbon monoxide poisoning, on the very slender ground that the changes met with in two fatal cases were indistinguishable from those at times seen in carbon monoxide poisoning. There is direct experimental evidence that, when the quantity of nickel carbonyl vapour inhaled is only just sufficient to kill, the total available amount of carbon monoxide is insufficient to influence the course of poisoning. The first case mentioned by Mott is that of a soldier who was supposed to have been buried by the débris of a parapet having been blown down by a shell. The man remained unconscious for two days after having been recovered, and then died. The assumption is that while lying unconscious, this man inhaled carbon monoxide vapour in sufficient concentration to produce toxic symptoms. Post-mortem numerous punctiform hæmorrhages were found in the brain, and there was also some subpial extravasation. Carbon monoxide was not found in combination with the hæmoglobin of this man's blood. The next case was that of a soldier who was admitted ten hours after having been "gassed," and who died sixty hours after admission of bronchiolitis and failure of the right heart. In this case there were punctate hæmorrhages, with thrombosis of arterioles, capillaries and venules, together with aneurysmal dilatation of some vessels. The blood clot contained chocolate-coloured pigment granules, which are said to be probably methæmoglobin. In addition there was evidence of inflammatory stasis and an excess of leucocytes in the vessels. In this case Mott attributes the hæmorrhages chiefly to the inflammatory stasis and the hyaline thrombosis of arterioles, capillaries and venules. He admits that the vapours employed by the Germans contain phosgene. Hydrochloric acid is liberated when phosgene comes into contact with a moist surface, especially at a relatively high temperature. The analogy with nickel carbonyl would rather suggest that the hydrochloric acid content of the dissociated vapour, rather than the carbon monoxide fraction, was the toxic agent. The third case was that of a man admitted to hospital unconscious and bruised on the arm and leg of the right side. He had many fits and his respiration was stertorous. He died thirty hours after admission. No carbon monoxide was discovered in his blood. There were hæmorrhages in the fornix and in the *corpus callosum*. On microscopical examination, hyaline thrombosis of the arterioles, capillaries and venules was noted, as was marked evidence of inflammatory stasis. The last case was one of poisoning from a "gas shell barrage." The chief symptoms were extremely rapid respiration, and later nystagmus and internal stabismus. There was no obstruction to the entrance of air into the lungs. Mott states that the findings were not consistent with carbon monoxide poisoning. Post-mortem punctiform hæmorrhages were seen. There was a condition of central thrombosis, with necrosis of the brain tissue around and infiltration with leucocytes. In none of the cases has Mott been able to adduce any evidence that the hæmorrhages in the areas of white matter were produced by carbon monoxide. It may be conceded that there is a marked similarity between these changes and those met with in undoubted carbon monoxide poisoning, but similarity need not be identity. That the hæmorrhages are localized in a definite manner, may be due, as he suggests, to the fact that the arteries in these situations are terminal, each artery having a separate capillary and venous system. Stasis may be brought about by a failure of the heart to pump the blood through these separate systems. But the failure need not be caused by a fatty degeneration of the heart due to carbon monoxide; it can be produced in

[1] "Punctiform Hæmorrhages of the Brain in Gas Poisoning," by F. W. Mott, *Journal of the Royal Army Medical Corps*, July, 1917.

many other ways. Further evidence is required before the true pathology of "gassing" can be elucidated.

RAT-BITE FEVER.

Futaki described, in 1915, a spirochaete measuring from 9 μ to 10 μ in the lymph glands of an animal infected with rat-bite fever. The spirochaetes discovered in the lymph exudate had small waves, while those in the glands had many steep waves. Later he found a short, thicker spirochaete in the wound of a man infected by a rat. Other investigators have come across the shorter variety, and these spirochaetes have been propagated in experimental infections. Renjiro Kaneko and Kikizo Okuda have recently had an opportunity of studying the post-mortem appearances of a person who had died of rat-bite fever, and have taken the opportunity of studying the infecting organisms present in the tissues.[1] They have formed the opinion that the long and the short forms belong to the same species of spirochaete. Numerous spirochaetes were found in the kidneys and suprarenals. The spirochaetes in the kidneys were found in casts and cylindroids of the straight tubules, and in Henle's canals. In the suprarenals they were situated in the cortical cells. A short type was met with in the interstitial spaces of the testicle. Careful observation revealed that the short forms met with measured from 1.7 μ to 5 μ in length. Each had from two to six waves. Some were more rigid than others, and these had irregular waves. The long forms measured from 6 μ to 10 μ, and each had numerous, small, steep, irregular waves. In addition they found forms mid-way between these two types. They suggest that the action of specific antibodies on the intact spirochaetes is to render them irregular and rigid. This is supposed to be the case in regard to *Spirochaeta ictero-hæmorrhagica*. In the course of Weil's disease the spirochaetes become degenerate, while at the height of the infection, only typical forms are found. According to the authors, the short forms, as described by Futaki, represent the intact, virulent type, while the long form is a sign of degeneration due to the effect of antibody action. Only the short form was found in their patient's blood during life.

Naval and Military.

In 345th., 346th. and 347th. lists of casualties, which were issued on October 24, 27 and 29, 1917, respectively, there are 3,254 names. The total number of dead in these three lists amounts to 851. In the 345th list there is a record of the death of Captain John Rowland Tillett; in the 346th. there is a record of the death of Lieutenant-Colonel Cecil Robert Arthur Pye; and in the 347th. list there is a record of the death of Captain Francis Bramall Metcalfe. We have announced these deaths already in this Journal. It is with great regret that we learn from the 346th list that Captain James Davie has died of wounds. Captain Malcolm Robert Finlayson is reported to have been wounded for the second time and to be remaining on duty. Captain Frank William Fay is wounded and is remaining on duty.

The following appointments have been announced in the *Commonwealth of Australia Gazette*, No. 180, dated October 25, 1917:—

Army Medical Corps.

To be Lieutenant-Colonel—

Captain (Honorary Major) T. P. Dunhill, Australian Army Medical Corps. Dated 1st September, 1917.

To be Captains—

Honorary Captain S. Boake, Australian Army Medical Corps Reserve.—Dated 15th August, 1917.

Honorary Captain A. S. Anderson, Australian Army Medical Corps Reserve. Dated 11th July, 1917.

Honorary Captain G. H. Burnell, Australian Army Medical Corps Reserve. Dated 7th September, 1917.

Honorary Captain D. Christie, Australian Army Medical Corps Reserve. Dated 12th September, 1917.

Honorary Captain W. E. Blackall, Australian Army Medical Corps Reserve. Dated 28th June, 1917.

Honorary Captain A. E. Morton, Australian Army Medical Corps Reserve. Dated 29th August, 1917.

Honorary Captain V. G. Webb, Australian Army Medical Corps Reserve. Dated 12th September, 1917.

Honorary Captain J. K. Couch, Australian Army Medical Corps Reserve. Dated 28th June, 1917.

Honorary Captain C. W. Stump, Australian Army Medical Corps Reserve. Dated 4th October, 1917.

Second Lieutenant A. L. McLean, Reserve of Officers. Dated 21st September, 1917.

Hessel George Howell, Geoffrey Mervyn Faithfull, and Colin Anderson. Dated 22nd August, 1917.

Harold Edgar Featherstone. Dated 28th August, 1917.

Robert Sutherland Scott. Dated 29th August, 1917.

Alfred Joseph Hope, Lance Hayward Stanton-Cook, and Archibald Gladstone Corbett. Dated 11th September, 1917.

Leonard Edmund Wadsworth Roberts, and Ronald Sydney Andrews. Dated 14th September, 1917.

William Ivon Hayes. Dated 2nd October, 1917.

David Henry Bodycomb, and Edwin Thomas Cato. Dated 10th October, 1917.

Thomas John Kevin Whittam. Dated 15th October, 1917.

Bertram Charles Noble O'Reilly. Dated 8th February, 1916. (This cancels the notification respecting date of appointment of this officer which appeared in Executive Minute, No. 300/1916, promulgated on page 700 of *Commonwealth of Australia Gazette*, No. 40, of 30th March, 1916.)

In the same issue the following notice appears:—

Appointments Terminated.

The appointments of the undermentioned officers be terminated from dates stated opposite names:—

Lieutenant-Colonel J. B. McLean, D.S.O.—4th October, 1917.
Lieutenant-Colonel A. H. Thwaites—19th October, 1917.
Lieutenant-Colonel C. F. Warren—8th October, 1917.
Lieutenant-Colonel J. Corbin—6th October, 1917.
Major J. B. Moore—3rd October, 1917.
Major A. P. Wall—10th September, 1917.
Major H. Z. Stephens—17th October, 1917.
Captain V. McDowall—22nd August, 1917.
Captain C. A. Payne—31st August, 1917.
Captain C. W. Sinclair—11th September, 1917.
Captain A. C. Smith—12th September, 1917.
Captain S. S. Shirlow—25th September, 1917.
Captain W. H. Weston, M.C.—3rd October, 1917.
Captain L. M. Snow—3rd October, 1917.
Captain R. D. Heggaton—3rd October, 1917.
Captain H. L. Deck—8th October, 1917.
Captain J. C. Douglas—8th October, 1917.
Captain H. T. S. Bell—18th August, 1917.
Captain L. E. Ellis—13th October, 1917.
Captain A. S. Anderson—22nd August, 1917.
Captain D. de C. Browning—9th October, 1917.
Captain I. C. Hains—8th October, 1917.

His Excellency the Governor-General has been pleased to appoint the following officers to the Australian Army Medi-

[1] *The Journal of Experimental Medicine*, September 1, 1917.

cal Corps Reserve, and to grant them honorary rank equivalent to that held by them in the Australian Imperial Force:

Officers who, on appointment for service outside Australia, were not members of the Australian Military Forces.

1st Military District.

To be Honorary Lieutenant-Colonel—

J. B. McLean, D.S.O., late Lieutenant-Colonel, Australian Imperial Force. Dated 14th November, 1914.

To be Honorary Captain—

V. McDowall, late Captain, Australian Imperial Force. Dated 12th June, 1915.

2nd Military District.

To be Honorary Captains—

W. H. Weston, M.C., and A. C. Smith, late Captains, Australian Imperial Force. Dated 14th July, 1915.

H. L. Deck, late Captain, Australian Imperial Force. Dated 27th July, 1915.

L. M. Snow, late Captain, Australian Imperial Force. Dated 5th October, 1915.

L. E. Ellis, late Captain, Australian Imperial Force. Dated 21st October, 1915.

J. C. Hains, late Captain, Australian Imperial Force. Dated 10th November, 1915.

S. S. Shirlow, late Captain, Australian Imperial Force. Dated 8th January, 1917.

Officers who, on appointment for service outside Australia, were serving and are now serving in the Australian Military Forces.

2nd Military District.

To be Honorary Lieutenant-Colonel—

Major C. F. Warren, Unattached List. Dated 26th August, 1915.

To be Honorary Major—

Captain A. P. Wall, Australian Army Medical Corps. Dated 1st May, 1915.

3rd Military District.

To be Honorary Colonel—

Lieutenant-Colonel C. H. W. Hardy, D.S.O., V.D., Australian Army Medical Corps. Dated 30th November, 1916.

To be Honorary Lieutenant-Colonel—

Honorary Captain A. H. Thwaites, Australian Army Medical Corps Reserve. Dated 1st July, 1916.

4th Military District.

To be Honorary Lieutenant-Colonels—

Captain A. J. Meikle, Unattached list. Dated 1st January, 1916.

Captain J. Corbin, Australian Army Medical Corps. Dated 10th February, 1916.

To be Honorary Major—

Honorary Captain D. de C. Browning, Australian Army Medical Corps Reserve. Dated 27th April, 1917.

6th Military District.

To be Honorary Major—

Captain H. Z. Stephens, Australian Army Medical Corps. Dated 14th November, 1916.

AUSTRALIAN ARMY MEDICAL CORPS COMFORTS FUND.

The generosity of two contributors has brought us within £10 9s. of £100 for the members of the Australian Army Medical Corps serving at the front. In sending his second contribution, Dr. J. L. Beeston writes:—

Some of my men will spend their fourth Christmas on active service. Surely we ought to try and make the conditions as nearly bearable as is possible. We are at home; these poor devils are not!

	£	s.	d.
Amount previously acknowledged	81	3	0
Dr. A. Jarvie Wood	5	5	0
Dr. J. L. Beeston	3	3	0

Public Health.

NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the week ending October 20, 1917:—

	Metropolitan Combined District. Cs.	Dths.	Hunter River Combined District. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Enteric Fever	7	0	1	0	2	0	10	0
Scarlatina	9	1	1	0	7	0	17	1
Diphtheria	25	2	1	0	29	1	55	2
C'bro-Sp'l Menin.	1	2	0	0	0	1	1	3
Pulmonary Tuberculosis*	21	7	1	3	7	1	29	11

* Notifiable only in the Metropolitan and Hunter River Districts, and, since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

Two cases of variola have been reported at Cessnock.

VICTORIA.

The following notifications have been received by the Board of Public Health, Victoria, during the week ending October 21, 1917:—

	Metropolitan. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Diphtheria	45	1	27	1	72	2
Scarlatina	51	0	11	2	62	2
Pulmonary Tuberculosis	18	3	15	6	33	9
C'bro-spinal Meningitis	4	—	1	—	5	—

SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, during the week ending October 13, 1917:—

	Adelaide. Cs.	Dths.	Rest of State. Cs.	Dths.	Totals. Cs.	Dths.
Diphtheria	3	1	17	0	20	1
Pertussis	0	0	13	0	13	0
Pulmonary Tuberculosis	2	3	7	7	9	10
Scarlatina	1	0	3	0	4	0
Erysipelas	1	0	1	0	2	0
Enteric Fever	0	0	1	0	1	0
Morbilli	0	0	1	0	1	0
Favus	0	0	1	0	1	0

QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending October 20, 1917:—

Disease.	No. of Cases.
Diphtheria	26
Pulmonary Tuberculosis	8
Bilharziosis	1
Erysipelas	6
Scarlatina	8
Enteric Fever	1
Ankylostomiasis	1

WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending October 13, 1917:—

	Metropolitan. Cases.	Rest of State. Cases.	Totals. Cases.
Diphtheria	7	4	11
Scarlatina	1	1	2
Pulmonary Tuberculosis	2	1	3
Erysipelas	1	0	1
Poliomyelitis	0	1	1

TASMANIA.

The following notifications have been received by the Department of Public Health, Tasmania, during the week ending October 20, 1917:—

Disease.	Hobart. Cases.	Launceston. Cases.	Country. Cases.	Whole State. Cases.
Diphtheria	6	2	10	18
Pulmonary Tuberculosis	1	0	3	4
Puerperal Fever	1	0	0	1
Enteric Fever	0	0	1	1
Scarlatina	0	0	1	1

Abstracts from Current Medical Literature.

THERAPEUTICS.

(153) Toxicity of Mercury.

J. F. Schamberg, J. A. Kolmer and G. M. Raiziss have investigated the toxicity of a number of salts of mercury (*Trans. College of Physicians of Philadelphia*). They have compared the toxicity of the new organic mercurial compounds prepared by themselves, with that of the mercurial salts in general use. They have estimated the immediate lethal dose of the various salts on intravenous injection into rabbits. In all cases death occurred within ten minutes. The fatal dose varies from 15 mg. per kilo. body weight in the case of the salicylate to three milligrammes in the case of the succinimide, the doses being calculated on the weight of mercury in the salt. The other salts tested ranged in the following order of toxicity: sozoiodolate, cacodylate, benzoate, bichloride and oxycyanide. Another attempt to ascertain the comparative toxicity of the salts has been made by determining the largest dose that could be tolerated on intravenous injection. The experimental animals have been rats and rabbits. The experiments have been repeated sufficiently often to eliminate the influence of variations due to different degrees of resistance in the animals. When the doses are calculated on the weight of mercury present, the maximal tolerated dose does not vary greatly with the nature of the salt. The salicylate and the bichloride are slightly better tolerated than the other preparations. The quantity of each salt that could be tolerated after intramuscular injection has been measured. It has been found that four times more mercury can be borne by intramuscular administration than by intravenous infusion. Experiments have been made by repeated intramuscular injections to ascertain how much mercury could be given before death ensued. These experiments have shown that the bichloride is tolerated better than the organic preparations. The rabbits died from nephritis in a month to seven weeks. Investigations have also been made of the effects of intramuscular injections of insoluble preparations of mercury. Calomel, grey oil and a suspension of mercury salicylate in oil have been used. These preparations are apparently much less poisonous. Rats withstand doses of 50 to 100 mg. per kilo. body weight. Rabbits are only temporarily affected by doses of 20 mg. per kilo. body weight. In testing the activity of the insoluble preparations the experimental animals have frequently been observed to die after six or seven weeks. These results have suggested that the dose undergoes slow absorption. Suitable experiments have demonstrated that with gray oil and salicylate oil half the dose is still not absorbed after seven weeks. With calomel three quarters of a dose of 180 mg. has not been taken up in the same time. The rate of absorption has been about one milligramme per kilo. body weight in 24 hours. With these large doses death invariably ensues. The authors point out the dangers of cumulative poisoning during the clinical use of these insoluble preparations. The mercury in these compounds is just as toxic as in the soluble preparations, but the dose of mercury is slowly administered. If the quantity of mercury absorbed is similar to that administered by repeated intramuscular injection no difference is observed. The soluble salts, such as the bichloride, are no more toxic than the insoluble compounds, while their dose can be readily controlled. The authors have examined the nephritis caused by mercury in order to compare the toxicity of the same salts and preparations. The nephritis is at first tubular, but is almost invariably accompanied by capsular glomerulo-nephritis of the exudative variety. The results accord with those obtained from study of the lethal dose.

(154) Emetin Bismuthous Iodide.

C. G. Imrie and W. Roche (*Journ. Roy. Army Med. Corps*, March, 1917) have treated six patients who harboured cysts of *Entamoeba histolytica*, by the oral administration of emetin bismuthous iodide. It has been supposed that the failure of emetin to destroy the cysts of *E. histolytica* on hypodermic injection is due to the presence of closed pockets or sinuses in which the cysts are shut off from the circulation and from the tissue fluids of the body. Dale has drawn attention to the superior efficacy of the oral administration of ipecacuanha in freeing the stools from cysts, and has introduced the compound of emetin and bismuth iodide to obtain the parasiticide action of ipecacuanha without emesis. The authors have given three grains (0.2 gm.) of the double salt on 12 successive nights to six soldiers infected with various intestinal protozoa. Four of the patients had previously received courses of hypodermic injections of emetin hydrochloride and, notwithstanding this treatment, continued to pass cysts in the fæces. The effect of the oral administration has been determined by daily microscopical examinations of the stools from the commencement of medication until six weeks after its termination. The cysts disappeared from five of the patients in 48 hours and from the sixth patient after six days. In no case has any return of the infection been observed. Full descriptions are given of the microscopical investigation of each case.

(155) Drug-fastness of Spirochaetes.

S. Akatsu and H. Noguchi (*Journ. Exper. Medicine*, March, 1917) have tried to determine whether several species of spirochaetes can be rendered more resistant to compounds containing arsenic, mercury and iodine by cultivation in the presence of these drugs. For this purpose cultures of *Treponema pallidum*, *T. microdentium* and *Spirochaeta refringens* have been tested with neosalvarsan, salvarsan, corrosive sublimate and Lugol's solution. As culture media, ascites-broth-tissue fluid and ascites-tissue-agar solid have been used. The spirochaetes have been grown for a fortnight in different concentrations of the drug. Transfers have been made into fresh media containing greater concentrations of each drug. After two weeks' growth a further transfer has been made into a still greater concentration. The process has been repeated until growth ceases. The tolerance of *Treponema pallidum* and *T. microdentium* to salvarsan and neosalvarsan has increased five times in three months. With *S. refringens* the increase has been three times. The resistance of *T. pallidum* to bichloride of mercury increased 70 times, while the resistance of *T. microdentium* increased only 10 times. The increased toleration to iodine-potassium iodide has been slight. Toleration can only be established when the spirochaetes are grown up on liquid media. When grown on solid media, no resistance to the drug is developed. When the spirochaetes are cultivated again in the absence of the drug, the acquired resistance disappears after several transfers.

(156) Tyramin in Labour.

H. G. Barbour advocates the use of tyramin in place of scopolamine in the production of anæsthesia with morphine during parturition (*Journ. Amer. Med. Association*, September 15, 1917). Tyramin is an active principle obtained from ergot. It is closely related to epinephrin in chemical constitution. It raises the blood-pressure and excites uterine contractions. Morphine by itself has many qualities rendering it an useful narcotic in parturition. It needs, however, to be combined with a substance stimulating uterine contractions, as its action tends to prolong labour. The author has sought for a suitable antagonist to morphine in this respect. He has examined a number of phenyl-ethylamine derivatives without finding a satisfactory compound. He tried tyramin which had been used by Bry. This substance is only one-tenth as toxic as phenyl-ethylamine. Its action on the respiratory centre has been studied. It stimulates the centre and antagonizes the powerful sedative effect of morphine on the ventilation of the lungs. This antagonism is most marked when three parts of tyramin are given with one of morphine. The mixture given during labour, has consisted of 16 mg. morphine sulphate and 40 mg. tyramin. This is administered when discomfort is observed in the first stage of parturition. Analgesia appears to be as complete as when morphine is administered alone. The respiratory rate of the mother is increased instead of being decreased. There is no tendency to asphyxia in the infants after birth. The uterine contractions increase after five minutes, and this augmentation is maintained during the confinement. The pains follow at two minutes' instead of five minutes' intervals.

UROLOGY.

(157) Nephrectomy.

Gordon Taylor (*Practitioner*, July, 1917) follows Fullerton's method of determining whether the function of the second kidney is sufficient to support life, when the question of the removal of an impaired organ is under consideration. This consists in the determination of the specific gravity, the examination for albumin, pus and blood, after collection through a ureteral catheter. The author gives some details of four cases, in which he found it necessary to remove the kidney. In the first case, the affected kidney was secreting urine heavily mixed with blood. There was a renal tumour felt under the left costal margin. The kidney was removed to check the hæmorrhage, after it was ascertained that the right kidney was capable of supporting life. The kidney was a typical congenital cystic kidney. In the second case there was severe hæmorrhage from the left kidney. Notwithstanding the fact that the skiagram was negative and no swelling could be felt, a renal neoplasm was diagnosed and the organ removed. The author describes the microscopical appearance of the kidney, and suggests that the case should be regarded as one of essential hæmaturia, although it corresponded to the condition described by Cuthbert Wallace and Dudgeon as unilateral nephritis. The usual treatment for these cases is nephrotomy, but he feared that, had this been tried and the hæmaturia had persisted, the patient might not have tolerated a secondary nephrectomy. The third case was one of hypernephroma, and the fourth one of acute hæmatogenous infection of one kidney. The patient had high fever, but no pain or tenderness in the loin or elsewhere. The urine contained large quantities of pus. Nephrectomy was performed to save the patient's life. The kidney had been a small hydronephrotic organ, which had been infected with a coliform organism and converted into a pyonephrosis. The patient made a good recovery, and remained in good health.

(158) The Study of the Renal Function.

C. Stuart Wilson (*North West Medicine*, August, 1917) has found that it is often difficult to form a correct estimate of the condition of the kidneys in a patient between forty and fifty years of age, when the only clinical signs are a raised systolic blood pressure, a trace of albumin in the urine and an occasional cast. He has been in the habit of employing, in addition to the usual forms of examination, a special examination of the renal function. This includes the phenolphthalein test, a diet test, observation of the specific gravity, water output, salt output, nitrogen output, and occasionally estimations of the non-protein nitrogen and of the urea content of the blood. The phenolphthalein test may reveal a defective power of excretion in chronic passive congestion. On the other hand there may be hyperpermeability, as evidenced by a normal excretion of the phthalein by a damaged kidney. The specific gravity varies normally about ten points in the twenty-four hours. The urine from a damaged kidney will show a specific gravity which does not vary more than two or three points. Normally the night urine is concentrated, and has a specific gravity of 1017 or over. Its nitrogen content should be above 1%, and the total amount should not be above 400 c.cm. The excretion of sodium chloride and of nitrogen after a test meal containing a definite amount of sodium chloride and nitrogen, should be completed within 24 hours, with but little retention. Less information is obtained from the estimation of the non-protein nitrogen of the blood and from the blood urea. A high non-protein nitrogen content indicates uræmia and a grave prognosis. The author urges that these tests should be carried out with great care, and when this is done, they will be found to be very valuable.

(159) Localization of Missiles in and near the Kidney.

Andrew Fullerton has devised a means of determining whether a bullet or other war missile is situated in the substance of the kidney or outside it. The significance of this to the patient is obvious, for a foreign body within the kidney should be removed without delay, while one outside may require removal or not, according to the disturbance which is created (*Journ. Royal Army Med. Corps*, December 1, 1917). He passes an opaque ureteral catheter into the pelvis of the kidney on the affected side. The tip will usually lie beyond the uppermost calyx, within 2 to 2.5 cm. of the upper end of the kidney. Stereoscopic skiagrams are then taken and the exact measurements of the distance between the upper and lower ends of the missile and the end of the catheter calculated. He illustrates the manner in which this method can give accurate information concerning the position of the missile.

(160) War Nephritis.

R. D. Rudolf (*Canadian Med. Assoc. Journ.*, April, 1917) objects to the term "trench nephritis," on the ground that the renal condition met with in the present war occurs not infrequently in soldiers who have not been in trenches. He prefers to call it "war nephritis." The condition occurs in epidemics, and affects our own troops, as well as those of the Germans and Austrians. It was practically absent in the South African war. It is generally supposed to be due to a chill, but he found that it was quite frequent as the weather was becoming dry and warm, and that, while "trench feet" is undoubtedly associated with the cold, wet conditions of the trenches, the epidemic nephritis appears to be independent of these conditions. Neither age, alcoholic excess nor syphilis seem to have any ætiological relationship with the disease. It has been suggested that it is caused by the diet soldiers have to swallow. The author points out that the Indian troops, who have a different diet to the European troops, are immune to the affection. On the other hand, Mackenzie Wallis failed to find an increase in the ethereal sulphates in the urine or urobilin, which would be indicative of an intestinal toxæmia. After analysing other suggested causes, he turns his attention to the possibility of war nephritis being an infective process. He is inclined to regard it in this light, and considers that the evidence points to the causal organism being ultra-microscopic. The symptoms include œdema of the face, body and limbs, headache, nocturnal dyspnœa and dyspnœa following exertion, cough and bronchitis, a raised blood pressure, and vomiting. The radial vessels are frequently thickened. There is often fever, but fits rarely occur. The prognosis is much better than in acute nephritis of the ordinary type. In some cases the condition drifts into a chronic and persistent affection.

(161) Membranous Cystitis.

A. Nelken (*Urologic and Cut. Review*, July, 1917) records a case of membranous cystitis due to infection with the xerosis bacillus. Membranous cystitis associated with a pseudo-diphtheria bacillus is extremely rare, only three cases having been reported. In the author's case, hæmaturia and occasional pain during micturition were complained of. A bacteriological examination of the urine disclosed a yellow staphylococcus and *bacillus xerosis*. The patient was examined by cystoscope, and the right half of the trigone was found to be covered by a greyish membrane. Irrigation was employed, but no improvement resulted. The bladder was then irrigated with a weak solution of silver nitrate. From that time increased frequency of micurition, with tenesmus and increased hæmaturia, occurred. These symptoms persisted, in spite of many forms of treatment, including vaccines. Relief was secured by suprapubic drainage, but the symptoms returned a few months after the opening was allowed to close. Later his troubles became much aggravated.

(162) Urinary Amœbiasis.

E. J. Wright records an unusual case of urinary amœbiasis associated with cystitis in a woman, aged 26 years (*Journ. Trop. Med. and Hygiene*, July 2, 1917). The patient complained of frequent micturition, with strangury and hæmaturia. The urine contained albumin. In the sediment red and white blood corpuscles, pus cells and amœbæ were found. The amœba measured on the average 20μ to 25μ and their nucleus 5μ. The ectoplasm was highly refractile. When compared with amœbæ derived from the stools of patients suffering from dysentery, the ectoplasm appeared to be greenish. There were numerous vacuoles in the endoplasm, and red cells were seen ingested. The condition cleared up under treatment with emetin and local irrigations.

ORTHOPÆDICS AND THE WAR.

The part played by orthopædic surgery in the great war has been dealt with, with his customary skill, by Colonel Sir Robert Jones, C.B., Military Inspector of Orthopædics.[1] The author speaks of an "orthopædic conscience," which has grown out of the study of the treatment of common deformities of children. He regards this as in some way akin to the "aseptic conscience," and considers both to be a necessary part of the mental equipment of every medical practitioner.

Many months ago it was recognized that the effects of severe wounds caused by modern explosives necessitated in many cases expert orthopædic treatment. It was therefore determined that orthopædic centres should be established in several parts of the country, where the disabled man could receive this form of treatment and an associated training that might equip him for a useful future in life. The first centre established was the Military Orthopædic Hospital at Alder Hey, Liverpool. Others have been established in London, Cardiff, Bristol, Leeds, Edinburgh, Glasgow, Aberdeen, Dublin and Belfast. The scheme on which these hospitals have been based depends on the co-ordination of all the departments. These include the massage, electrical and hydrological departments, the curative workshops, the gymnasium and the surgical hospital. A constant collaboration between the heads of these departments helps to prevent that baneful tendency to a narrow-minded belief in the universal efficiency of one particular mode of treatment.

The patient, on admission to the hospital, comes under the charge of a surgeon who is responsible for his treatment up to the time of his discharge. The surgeon has to decide on the plan by which he is to attempt to restore the function of the disabled limb. As soon as it is practicable, the patient should have some occupation for his mental, moral and physical welfare. For this reason, the curative workshop is an invaluable aid to gymnastic treatment. Sir Robert Jones calls attention to the fact that a man with stiff fingers soon wearies if required to grasp spring dumbbells, but spends the morning cheerfully, if required to grasp a big duster and to clean windows. His mind is occupied with the removal of the dirt and not with the fact that his maimed hand has difficulty in grasping the duster. Later, if he has been trained to some trade, he is promoted to the use of the tools he understands. The author's experience has taught him that a soldier, after lying in bed for a considerable time, loses much of his spirit and initiative. During the convalescence, he learns the habit of getting through the day without doing anything more energetic than smoking, playing cards or going to a cinematograph show. The environment of work, however, soon dissipates this slackness, and the man rapidly desires to employ himself, especially when the satisfactory performance of his work brings him some small extra privileges. As his power for work increases, he ceases to think of himself as a maimed man, and begins to plan for his future.

Sir Robert Jones deals briefly with some points in the surgical aspect of this subject. He insists on the fact that error in alignment after fractures of the long bones is the principal cause of disability. The attempt to correct defective alignment reduces the patient's suffering, and, by obliterating pockets in the tissues, promotes drainage. The reduction of deformity in the first instance involves no added risk. Reduction at a later date does so. In the case of injuries involving joints, it is of the utmost importance that the position of the limb which will eventually prove to be the most useful, shall be secured at an early date.

In the next place, he turns his attention to the after-treatment of injuries. In referring the patient to the massage and electric department, the surgeon should explain what he has been doing for the case, why he is prescribing massage, and what form of massage he desires. In order that the best results are attained, he advocates the appointment of a medical officer to take charge of the massage department to consult with the surgeon, and to direct the masseuses. He advocates the use of massage as a preliminary to surgical operation, to loosen scars and to make it easier for the surgeon to operate. At times, massage will warn the surgeon by the appearance of an inflammatory reaction of the existence of a local infection. A wise surgeon will heed this warning and postpone the operation. It may also be used for the purpose of reducing swelling and of relieving pain after manipulative procedures. Its most important application, however, is for the purpose of maintaining circulation and nutrition in wasted muscles. For this purpose electric stimulation by means of faradic currents is associated with the massage.

The author teaches that preliminary muscular cultivation should be carried out in the majority of cases while the limb is kept continuously on a splint. The splint should be so devised that the weak muscles are relaxed. As voluntary power returns, the patient is taught to contract the muscle until it becomes strong enough to lift the limb off the supporting splint. Then, and not until then, may the splint be discarded.

At this stage the patient is subjected to physical drill and education of his injured limb, both in the gymnastic department and in the workshop. Sir Robert Jones holds that, when the principles underlying this orthopædic scheme are appreciated and applied from the beginning, much of the deformity now seen among soldiers will be prevented. He points out that the wounds of war lead to widespread dissemination of fibrous tissues following the planes of septic infiltration. Unlike the fibrous tissue forming adhesions in ordinary aseptic injuries, this extensive fibrosis cannot be got rid of by forcible breaking down. There must be a gradual coaxing and a re-education of muscles, so that eventually the cicatricial adhesions are eliminated by muscular action.

Another branch of orthopædic work has been started at Roehampton, where a staff of orthopædic surgeons have under their care a large number of limbless men. Among the duties of these surgeons are the task of deciding whether a stump can carry a useful artificial limb, and that of determining what form of artificial limb is best adapted to the requirements of each man. Classes are formed for the purpose of educating limbless men to effect repairs to artificial limbs. These men will be scattered all over the country at a later date, and it is therefore important, in the interests of others similarly situated, that they, who have experienced the use of artificial limbs, should be in a position to apply modifications and undertake repairs both of their own artificial limbs and of those of their fellows.

[1] *Recalled to Life*, No. 1, June, 1917.

British Medical Association News.

SCIENTIFIC.

A meeting of the Queensland Branch was held at the B.M.A. Rooms, Adelaide Street, Brisbane, on September 7, 1917, Dr. W. N. Robertson, the President, in the chair.

Dr. J. Lockhart Gibson showed two patients to illustrate the value of the giant magnet in extracting steel fragments from the eye. In the first case, a piece of steel had been removed from the vitreous, where it had been for ten days. In the second case, a piece of steel had been in the anterior chamber for twelve days before removal. There was $^6/_9$ vision in each of the eyes three weeks after the operation.

Dr. W. N. Robertson exhibited a case of complete nasal obstruction due to a hypertrophic bone condition. The palate, turbinals and septum were fused in one mass. The posterior end of the septum was 1.25 cm. (½ inch) thick. The upper lip was raised, as in Denker's operation, and an air-way was chiselled right through. The operation was conducted in two sittings under rectal anæsthesia.

MEDICO-POLITICAL.

A meeting of the Queensland Branch was held at the B.M.A. Room, Adelaide Street, Brisbane, on September 7, 1917, Dr. W. N. Robertson (the President) in the chair.

Uniform Medical Registration.

Dr. L. M. McKillop moved:—

That, in the opinion of this Branch of the British Medical Association, the time has now arrived when the registration of legally qualified practitioners

throughout Australia should be placed on a uniform basis, and to this end the Federal Committee of Branches be asked to approach the Commonwealth Government with a view to having the necessary legislation enacted.

The President stated that the Federal Committee had had a similar motion before it for consideration about three years ago. The Commonwealth Government had been approached, but the Committee had been informed that the Federal Government had no power to take action in this matter, the power being vested in the State Parliaments.

Dr. McKillop, in speaking to the motion, suggested that the British Medical Association should ask the Federal Government to introduce a Medical Bill at once. This Act should provide that the existing Medical Boards should be empowered to grant registration certificates which would be recognized in all parts of the Commonwealth. He further suggested that the new legislation should create a body akin to the General Medical Council of Great Britain, to regulate the standard of professional conduct throughout Australia, and to act as a court of appeal in matters arising from the operations of the various State Medical Boards. In the last place, he proposed that provision should be made to suppress quackery, as had been done in New Zealand.

Dr. R. Graham Brown seconded the motion, which was carried unanimously.

Dr. T. R. McKenna moved that the Federal Committee be urged to take this matter in hand again. He pointed out that a discussion at a Branch meeting could be of no value.

Dr. W. W. Hoare seconded the motion.

Dr. J. Lockhart Gibson stated that he had been informed that the State Government had under consideration a Bill to register herbalists.

The Honourable W. F. Taylor held the opinion that no good could come of any action taken, because the constitution of the Commonwealth did not admit of the Federal Parliament giving effect to the proposal.

Dr. W. N. Robertson stated that the State Government proposed to introduce a new Medical Bill next year.

Dr. McKenna's motion was put to the meeting, and was carried.

Medical Bureau.

A letter from Dr. F. S. Thomas, dealing with the suggestion of the establishment by the Queensland Branch of a Medical Bureau, was read. The matter was referred to a sub-committee appointed to deal with country hospitals.

Cypher Prescribing.

A communication from the Pharmaceutical Society, enclosing samples of cypher prescriptions, was read.

Dr. J. Espie Dods said that it had been laid down that when a medical practitioner wrote a prescription, it belonged to the patient. Cypher prescriptions were valueless to patients.

Dr. J. Lockhart Gibson disapproved of medical practitioners dispensing their own medicine, and thought that some action should be taken by the Branch.

The Honourable W. F. Taylor moved that the fact that a letter from the Pharmaceutical Society, together with samples of cypher prescriptions, had been sent to the Branch should be made known to those doctors who were using cypher prescriptions, and that they be asked to give an explanation. The suggestion was seconded by Dr. L. M. McKillop, and was adopted.

Model Lodge Agreement.

The Honorary Secretary read some correspondence which had passed between Drs. Kerwin, Clarke and Collins and the Friendly Societies' Association in reference to an increase in the lodge rates. He also referred to a resolution which had been passed by the Branch to the following effect:—

> That the Model Agreement, as adopted, stand, except that, in view of the conditions caused by the war, the Queensland Branch of the British Medical Association decides that no present increase in previously existing fees for lodge patients be asked for.

Dr. F. Page held the opinion that the resolution was intended to apply for the period of the war. He thought that any alteration would lead to trouble. He therefore moved that the resolution should be interpreted as applying for the period of the war.

Dr. Helen Shaw seconded Dr. Page's motion, which was negatived.

Dr. T. R. McKenna did not agree with Dr. Page and Dr. Shaw. As the unions were all securing increased rates of payment, it would be only just if the doctors increased their rates also.

Dr. J. Lockhart Gibson supported Dr. Page's interpretation, but expressed the view that the Branch had been foolish in passing such a resolution.

Dr. E. Russell did not agree with Dr. Page and Dr. Shaw, and moved that no action be taken in regard to the proposal of the Cairns members to increase their fees. This suggested was seconded by Dr. Graham Brown, and was carried. Dr. Graham Brown thought that it might be wise if the lodges were approached with the suggestion that a gratuity should be given to the doctors to cover the increased cost of petrol, etc.

CONTRACT PRACTICE IN VICTORIA.

Points in Organization.

IV.

Now or After the War.

It has been urged in our correspondence columns that it would have been more dignified and juster if the introduction of the Common Form of Agreement in Victoria were postponed until after the war. For a time some doubt existed whether the truce called in 1914 meant that negotiations should not be re-opened during the course of the war, or whether the Victorian Branch Council would be justified in broaching the subject at an earlier date. Reference to the resolution passed on the occasion of the conference with the Friendly Societies' Association, and confirmed by the Council of the Victorian Branch of the British Medical Association, shows that there was no intention to suspend these dealings indefinitely, but that while the outlook was nebulous, no further steps would be taken. It is conceded that the uncertainty of that time rendered it inadvisable to press for the reforms included in the Common Form of Agreement. The question now arises: Is the present time a suitable one for the introduction of these reforms? In July, 1914, it was anticipated that the war would be a sharp but a short one; that a supreme effort would be made; that all other interests would be cast to the winds; and that as a result of the loyal action of the vast majority of the population, industrial depression of a temporary nature would follow. Many people held the opinion that the departure of a large number of "wealth producers" for the seat of war would materially arrest the development of Australia's wealth. The war has already lasted nearly three years and four months, and the end is not yet at hand. Australia has failed in her duty to put aside all else in the vigorous prosecution of the war. There are many, far too many, strong, young, capable young men making money in the Commonwealth. The only disturbance in the productiveness of Australia has been due to industrial upheavals, and attempts to intimidate the community into submission to the powerful trade unions. Paper money has replaced gold and loans have supplied a record prosperity. There is less unemployment, save when that unemployment is due to the deliberate refusal of the worker to undertake work. The Defence Department and every Governmental department find employment for all sorts and conditions of men. The result is that despite the increased cost of living, every place of amusement is full, the theatres and picture shows are crowded every night and nearly every afternoon, record attendances are seen at boxing contests, and the various race meetings attract more people than ever before. All this means that the masses have plenty paper money to squander. Under these circumstances, is not the time favourable for the adjustment of the conditions of lodge practice? Why should the lodge surgeon continue to work at sweating rates and under oppressive conditions for people who, without difficulty, can afford to pay a very moderate sum weekly for the valuable services of a trained doctor?

A glance at the records of the conferences held in 1914 will suffice to show that the Friendly Societies had no intention of agreeing to the terms insisted on by the Victorian Branch of the British Medical Association. Many of

the officials of the lodges stated that the doctors were well paid. One delegate, on being told that the doctors found it imperative to use motor cars, retorted that he would not care if his doctor came in a wheelbarrow.

Those who would postpone the introduction of the Common Form of Agreement until after the end of the war, have given but few arguments in favour of this course. There is no need to obscure the issue by permitting sentiment to enter. The insistence on equitable terms, which are not oppressive, cannot be regarded as being in any way contrary to the interests of the community as a whole. A fair deal, which brings satisfaction to both parties, as the introduction in New South Wales of the Common Form of Agreement has done, makes for more efficient service and consequently less financial loss to the community. Peace will come some day, and when it has come, there may be rather less than more prosperity than at present. In any case, no valid reason has yet been adduced why this reform should be postponed for months, perhaps for years, until the war is over. Members of the Victorian Branch will realize that now is the best time for taking the necessary steps. If they are loyal to their colleagues and to themselves, they will find no cause to regret this decision. A unanimous profession means a short interval before the lodges will accept the terms put forward.

INFECTIVE DISEASES.

The 18th and 19th Bulletins of the Quarantine Service, issued on August 31 and September 14 respectively, contain the following information:—

Variola.

Two cases of variola were reported in New South Wales during the second half of August. There were no further cases up to September 13, 1917. In the Dutch East Indies 56 cases and 10 deaths were notified since the last report. During the week ending August 25, 1917, one case was reported in Singapore. There were four cases of varioloid during the period from July 21 to August 11, 1917.

Plague.

The number of cases of plague notified in India between June 10 and July 21, 1917, was 11,668. In the same period there were 8,376 deaths from the same disease. The last report received from Java contains information concerning 10 cases with 9 deaths. There were three cases and two deaths reported in Hong Kong between July 21 and August 13. Four cases occurred in the Straits Settlement between August 15 and September 6, 1917, with three deaths. There were 304 cases in Egypt between May 25 and June 28, 1917, and 181 deaths. One case of septicæmic plague, which had not been confirmed bacteriologically, was reported in Colombo during the course of the week ending July 21, 1917.

Cholera.

Since the issue of the last Bulletin, information has been received from the Dutch East Indies in regard to 17 cases of cholera and four deaths.

Typhus.

According to the reports issued by the United States Public Health Service, the incidence of typhus fever during the period from June 30 to July 20, 1917, was as follows:—

Place.	Cases.	Deaths.
Austria-Hungary	3,752	—
Egypt	830	232
Mexico	193	—
Java	43	2
Russia	22	3
China	2	—
Greece	—	15
Spain	—	2

There were two fatal cases of typhus reported at Ogden, Utah, U.S.A., during the last week in June.

Illegal Importation of Dogs.

Rabies is stated to be unusually prevalent in France. Quarantine Officers are instructed to inform the Customs Officer on duty, or an Officer of the Animal Quarantine Division, of the presence on board vessels conveying soldiers into Australia of any dog which may have been noticed. The importation into Australia of dogs from any part of the world except the United Kingdom and New Zealand is strictly prohibited, and special certificates and declarations are required in the case of animals brought from the countries named.

Obituary.

GILBERT LAMBLE.

The medical profession in Australia has suffered a great loss by the death of Gilbert Lamble. One could point to him with pride as a man born and wholly trained in Australia, yet having the wide outlook and the broad sympathies that are usually associated with more cosmopolitan experience. He was born at Heathcote, Victoria, and educated at Geelong College, under the late Dr. George Morrison. At the Melbourne Medical School he gained honours in Natural Philosophy at the outset, but did not obtain other distinction till he graduated as M.B., at Christmas, 1908, gaining first-class honours and the Scholarship in Therapeutics, Dietetics and Hygiene, with second-class Honours in Medicine and in Surgery. Already he had lost a year by his first attack of pulmonary disease. In 1909 he served as Junior Demonstrator of Pathology in the University of Melbourne, and in 1910 and 1911 he was Stewart Lecturer on Pathology and Assistant Pathologist to the Melbourne Hospital. At the Australasian Medical Congress in Sydney in September, 1911, he read a fine paper on "Histological Studies compared with the Wassermann Reaction." In this he submitted his own histological findings in one hundred consecutive autopsies performed by him at the Children's Hospital, and the independent results obtained by Dr. R. J. Bull in examination of the sera of the same cases. A most remarkable agreement was established between the microscopical criteria adopted at the School of Pathology in Melbourne and the Wassermann test. Incidentally conclusive proof was given of the serious part that syphilis plays in child mortalities. This paper was submitted as a thesis for the Degree of M.D., and won the favourable verdict of the examiners.

In 1912 Professor Sir Harry Allen visited the United Kingdom, and Lamble acted as Professor of Pathology, with a seat on the Professional Board and on the Faculty of Medicine. In this responsible position he acquitted himself admirably, and afterwards received the special thanks of the Council of the University. In the following year his health again failed, and he left the University to stay with his fellow-student, now Lieutenant-Colonel J. H. Anderson, at Corowa. In March, 1914, he was appointed Lecturer on Histology and Human Embryology, and reorganized the course out of its old lines, based on general biology, and

made it a course of practical work from the human standpoint, so that it formed and still forms an excellent introduction to pathological histology. An attack of appendicitis followed at the end of the year, but he was able to enjoy a visit to Tasmania in the long vacation. In 1915 he resumed his classes, but from time to time he suffered from pulmonary hæmorrhages, till he finally resigned in August, 1916. His long connexion with Queen's College, as Tutor in Medicine and Surgery, and afterwards as Resident Tutor, also came to an end. He was a valued correspondent to *The Medical Journal of Australia* during the year 1915; unhappily he was unable to continue his contributions early in 1916. At intervals his health seemed to improve, and he hoped to establish a private practice as a clinical pathologist, but his strength gradually gave way, till he died on July 20th, 1917, aged 32.

As a scientific observer, Gilbert Lamble was clear-sighted and accurate. As a teacher, he was noted for thoroughness and lucidity. As an examiner he was careful and just. As a College don, he exercised a great influence, and often his kindly judgement that there was good in defaulters, and that they only needed time, proved its soundness by the experience of after days. To his colleagues and friends, his clear, sweet nature was a constant joy. He delighted in books and pictures and flowers. Catholic in his tastes, he had his pet aversions, and they were sometimes singularly hearty. Under the depressing conditions of long illness, he bore his disappointments bravely, and his patience never tired. His memory and his example will long be cherished. H. B. A.

CECIL ROBERT ARTHUR PYE.

The relentless hand of fate has been hard on the members of the medical profession of late. We have had the sad duty of recording the loss of many valuable young lives, lives full of promise; men in the flower of their strong manhood; men whose courage, determination and good judgement might have been utilized for the advancement of mankind, instead of having to be sacrificed in the vast struggle against the pernicious domination of military power and ruthless warfare. In the majority of cases, medical men have taken part in the world war as non-combatants, seeking to ameliorate the sufferings of those who fall and to save valuable lives for their country. Of the few who have elected to join the combatant rank, none has earned his laurels more thoroughly, and none has faced his duty better than Cecil Robert Arthur Pye. His death has created an irreparable breach in the ranks of the profession.

Cecil Robert Arthur Pye was born at Windsor, in New South Wales, 27 years ago. He was the eldest son of Mr. and Mrs. R. A. Pye. He was educated at Barker College, Hornsby, and distinguished himself as a student at a very early age. He matriculated at the age of 15 years. He then served for a year with his father in his dispensary at Windsor before proceeding to the Sydney University. He graduated before he had reached his twenty-first birthday. His claim of having been at that time the youngest doctor in the State was probably well founded. In 1911 he served as Resident Medical Officer at the Newcastle Hospital, and in the following year he signed on as ship's surgeon on a ship bound for China and Japan. His next move was to Europe. In London he did some hospital work, and then took a trip through Ireland, Scotland, France and Germany, grasping every opportunity to see what was being done in the various hospitals of the chief towns in his itinerary. He returned to Australia in the middle of June, 1914, a fortnight after the declaration of war. During his University days he had joined the University scouts, and later he had joined the Australian forces as Lieutenant in a Windsor company. He rejoined his old regiment at Newcastle, and after a short time, enlisted for service abroad. He left Australia for Egypt in May, 1915, with the rank of Captain, and gained his majority at Gallipoli. He served for a time as Officer in Command at Quinn's Post. After about three months' service, he was taken ill with dysentery and was sent to England. After he had passed through his convalescence he was detailed to take a battalion from Australia, but before he arrived home, the plans were changed. He was then given 14 days' leave. Later he was admitted to the No. 4 Australian General Hospital for medical treatment for a functional condition of his heart. Two months later, he was appointed Commandant at Newcastle Camp, and later on he joined some reinforcements to his old unit, the 17th Battalion. He sailed for Europe again in August, 1916. Once in France he obtained his promotion to temporary Lieutenant-Colonel, and was given charge of his battalion for three months during the absence of Colonel Martin. Later he was transferred to the 19th Battalion, and obtained command and permanent rank. He received the Distinguished Service Order for conspicuous bravery and gallantry on Layton Lane. On April 2, 1917, General Birdwood wrote to him as follows:—

> This is just a line to congratulate you most heartily upon the D.S.O., which I am so really pleased has been awarded you for conspicuous gallantry and good organizing powers which you displayed, while your battalion was in the line near Warlencourt towards the end of February. You were, I know, in charge of the whole of the front line and had all the work of organizing and conducting the attack on Layton Lane, resulting as it did, in complete success, owing to your energy and determination, especially when meeting the enemy's counter attack, which, I know, you defeated by taking the one proper course for a good soldier in such a position, *viz.*, at once organizing a counter-attack of your own and turning them out. Thank you so much for all your good work, and with every good wish to you for the future,
>
> Yours very sincerely,
>
> W. R. BIRDWOOD.

In the 346th list of casualties, which was issued on October 27, 1917, there was an entry:—

Lieutenant-Colonel Cecil Robert Arthur Pye. . . .
Killed in action. . . .

He fell on October 4, 1917.

He was popular at school, at the University and in each of the many camps in New South Wales in which he served. He was loved by his men and exercised a great influence over them. Our sympathy goes out to his parents, to whom he was an exemplary son. He has a brother, Warrant Officer Eric J. D. Pye, who has been serving with the 5th Field Ambulance for 2½ years.

WILLIAM BOAKE.

Widespread regret has been occasioned by the death, which occurred with tragic suddenness on September 25, 1917, of William Boake, of Hawthorn, Victoria. Dr. Boake was performing the operation of the removal of adenoid growths. The first operation went off without difficulty; when the second was nearly completed, the patient was seized with a spasm of the glottis, which caused anxiety for a minute or two to both Dr. Boake and to Dr. William Begg, who was administering the anæsthetic. The child soon recovered, but almost at the same moment his colleague noted that Dr. Boake was acutely ill. He was placed in the recumbent position, and all means available were adopted to revive him. Death appears to have taken place at the commencement of the heart attack, which has been attributed to a myocardial affection, secondary to a chronic diabetes.

William Boake was born in Dublin in 1860. His early education was undertaken in Ireland, and in due course he started his medical course in Dublin. At the age of 23 he received the diploma of Licentiate of the Royal College of Surgeons of Ireland, and later he took the diploma of the Royal College of Physicians of Ireland. Soon after passing his examination, he travelled to Australia and settled at Kempsey, on the Macleay River, New South Wales, in partnership with the late Dr. Casement. A few years later he returned to England and served as House Surgeon at the London Temperance Hospital for a short time. In 1889 he made his second journey to Australia. This time he chose Grenfell, but only stayed there for a few months. In November, 1890, he went to Maffra, in Gippsland, Victoria, and practised there for about ten years. At the end of his stay he again visited England and Ireland, where he spent 19 months. In 1902 he settled at Hawthorn. He soon built up a large private and lodge practise. He worked extremely hard, and did a great deal of midwifery, which involved much night work. His patients had great confidence in him and were much attached to him. He never spared himself, when there was anything to be done. He was one of the most popular men in Hawthorn, and was beloved alike by

his colleagues and patients. He is survived by his widow, the second daughter of the late Mr. C. W. C. Hatton, of Waverley, Sydney, and two sons, one of whom is serving with the Australian Imperial Force in France.

Special Correspondence.

(By Our Special Correspondent.)

LONDON LETTER.

The Future of Voluntary Hospitals.

In moving the adoption of the report at the Annual General Court of Charing Cross Hospital, held on March 23, 1917, Mr. George Verity, the Chairman, said that, for the first time since the charity was founded, the whole building was fully in use from roof to basement, and the volume of work which had been carried out was greater in 1916 than ever before. No fewer than 3,174 in-patients had been admitted, and the out-patients' attendances numbered 81,132. The number of soldiers admitted and treated was 848, and with regard to those who were not fit for further service, it was their boast than no soldier left the hospital who was not provided with a suitable job. Having shown how economically the institution was managed, he referred to the question of the Government and voluntary hospitals. Those behind the scenes, and those who could read the writing on the wall, he said, knew that they were at the parting of the ways. Government department after Government department, and new sections of Government departments were all going on with their officials, and also with their forms to fill, in spite of the economy called for in the consumption of paper, and yet the voluntary hospitals, which were doing the bulk of the work of the country, were not receiving any help from the Government. He maintained they were being hampered by a number of Acts of Parliament, and he had asked Lord Rhondda to see the representatives of the voluntary hospitals before further legislation was passed, or another form was filled in. Under the Insurance Act millions were collected, but what did the people get for it? They got a pittance, an opinion, and a bottle of medicine. The voluntary hospitals were doing the work, and they did not get a penny for it. If voluntary hospitals were ever taken over by the Government it would be one of the greatest blows to charity and to the real benefit of the nation that had even been inflicted.

Medical Research in India.

A paper prepared by Sir Pardey Lukis, Director-General of the Indian Medical Service, was read before the Royal Society of Arts by Sir Havelock Charles on March 27, 1917.

After paying a tribute to the work of Sir Patrick Manson and Sir Ronald Ross in tropical medicine, the author of the paper went on to point out that it was mainly due to Mr. Joseph Chamberlain, when he was at the Colonial Office, that research in tropical medicine received an impetus, the effects of which were seen to this day. India was not slow to appreciate the importance of this movement, and the Indian Medical Service was fortunate enough to attract a number of men with a bent for medical research, who went to India, fired by enthusiasm, and determined to take advantage of the unique opportunities which that country offered for original investigation and scientific discovery. The Service owed a debt of gratitude to Sir Almroth Wright, who, when Professor of Pathology at the Army Medical College at Netley, did so much to fan the flame of enthusiasm. At that time the Indian Medical Service could not boast of any special research department, but the investigations carried out—often in the face of considerable difficulty, and with but little or no official encouragement—by individual officers, such as Semple, Liston, Rogers, McCarrison, and Mackie, did much towards the creation of the present Bacteriological Department. In recent years the department had developed considerably, and it now consisted of twenty-nine cadre appointments, the majority of the incumbents of which were employed in research work, and had no other official duties to distract their attention. In addition to these, a considerable number of appointments were, as a rule, available in connexion with special investigations and enquiries. Appointments in the Bacteriological Department were not entirely reserved for members of the Indian Medical Service. They were open to independent medical men possessing the necessary qualifications for medical research, and at the present moment six independent practitioners—one European and five Indians—had been admitted. The remarkable progress which had been effected, mostly in the last five years, was striking evidence of the importance that the Government of India attached to medical research. The enthusiasm displayed on all sides augured well for the future, and, provided that India continued to attract men with a leaning towards the scientific and research sides of their profession, there was no limit to the possibilities of the future.

Vital Statistics for 1915.

The report of the Registrar-General of Births, Deaths and Marriages in England and Wales, dealing with the year 1915 was issued on April 2, 1917. Sir Bernard Mallet states that the salient features of the vital statistics are that the marriage-rate was 19.5 per thousand, being 3.6 above the rate in the preceding year, and the highest rate on record. The provisional figures for 1916, however, indicate a return to the average experience in 1905-1914. The birth-rate for 1915 was 22.0 per thousand, being the lowest on record. Although this is 3.5 below the average for the preceding decennium, and 1.8 below the rate in 1914, the fall in the birth-rate in England and Wales compared favourably with the experience of other belligerent countries. The provisional rate for 1916 is 21.6.

The civilian death-rate in 1915 was 15.7 per 1,000, being 1.2 above the average for the total population in the preceding ten years. Although higher than the rates in recent years, the civilian death-rate in 1915 was below the rate for the whole population in any year before 1903. The civilian death-rate is adversely affected by the withdrawal by enlistment of a large body of men of an age at which mortality experience is below the average, and by the fact that the men remaining in the civil population at this age are, on the whole, much less healthy than those that have been withdrawn. The provisional rate for 1916 is appreciably lower than that for 1915.

Apart from the abnormally high death-rate of males of military age, the increase of mortality in 1915 mainly occurred in later childhood and old age.

Infant mortality was 110 per 1,000 births, being 5 per 1,000 above that rate in the preceding year, but below the average of the ten years 1905-1914 by the same amount. The provisional infant mortality rate for 1916 shows a decrease of 91 per 1,000 births, the lowest rate on record.

Compared with 1914, most of the principal causes of death show increased mortality, the converse being the case with regard to scarlet fever, enteric fever, and diarrhœal diseases. The death-rate from enteric fever was the lowest on record, but that from influenza was the highest since 1900, and that from measles the highest since 1896. Other special features of the year's mortality are the abnormally high death-rate from cerebro-spinal fever consequent upon the first outbreak in recent years of this fatal disease.

University College.

The annual report on the work of University College, London, has just been issued. The total number of students on the College books for the academic year 1915-16 was 1,133, whereas the normal number is about 2,200. Of the 1,133, 535 were men; of the 535 men, only 222 were in attendance throughout the session, the remainder taking up military or naval service, or some special form of war work. The normal fee revenue is over £29,000; the fee revenue for 1915-16 was £14,938. By means of drastic economies and postponement of expenditure, and with the help of generous donations from members and friends of the College, supplemented by the special Treasury grant, expenditure was kept within income. The financial outlook for the current session causes anxiety, the fee revenues having further declined.

The third issue of the "Pro Patria" List, with the supplement recently prepared, contains 1,554 names of members of the College, 1,516 of whom are on active service. Of these, 122 have fallen in the war. The list of war honours gained by members of the College is summarized as follows: One Knight Commandership of St. Michael and St. George; 15 Companionships of St. Michael and St. George: 9 Companionships of the Bath; one clasp to Victoria Cross; one Victoria Cross; 23 Distinguished Service Orders; 59 Military Crosses; three Orders of the White Eagle (Serbian); one *Croix de Chevalier*; one *Croix de Guerre*; and 99 mentions in despatches.

Correspondence.

BARCOO SPUE.

Sir,—May I add the following remarks to the interesting correspondence about this phenomenon? The information was obtained from a former resident of the Barcoo country, who has experienced this sudden attack of vomiting, known there as the Barcoo spue and by no other name.

Without warning of any kind the victim would have to leave the table owing to a sudden feeling of abdominal uneasiness (no gullet nausea), associated with an intense desire to vomit. This being successfully accomplished, there was a feeling of complete emptiness—not unpleasant—and a readiness to go back and have another meal. One man was seen to have and lose three meals in his attempt to overcome the condition. The vomitus is neither sour nor bitter. Once the stomach was empty the vomiting ceased, and there was no after effect or feeling of illness. At the onset of the vomiting some giddiness was noticed. After the attack, work was resumed without any feeling of malaise. The blacks did not appear to suffer from the condition, neither was there any association with age, sex, or married state. The attack most frequently occurred with the midday meal and in the very hot weather. The conditions of living were good, the food being plain but wholesome, with fresh meat and vegetables every day, unless during short spells of camping out. Owing to the heat it was necessary to kill the meat for breakfast on the same morning, the meat frequently being cooked before the tissue was dead. The drink was tea, as the water obtained from a dam was muddy, so much so that the sugar was added to the water before putting in the tea leaves, as this was said to throw down the deposit to the bottom and give a clearer brew. The old hands on the place considered that the vomiting was caused by swallowing a small fly like a midge, but there was no evidence to substantiate this theory.

Although the victim of the attack was apparently in his usual health just before the attack of vomiting, yet it is recognized that those who live in that country for a few years continuously, become subject to intestinal trouble and require a lot of aperient medicine.

I hope some more information on this subject will follow.

Yours, etc.,

October 25, 1917. "VOMITUS."

BARCOO ROT.

Dr. C. H. Souter calls our attention to an error in his letter on Barcoo rot, published in our issue of October 20, 1917, page 347. He wished to advocate sulphide of calcium, and not sulphate of calcium, as printed.

METRIC AND ORTHOGRAPHIC DIFFICULTIES.

Sir,—Some time ago you promised to place the dosage of drugs in both the metric and the Imperial forms for the benefit of some of us old buffers. Squire (1916) mentions dosage in grammes. In Dr. Lambert's interesting post-graduate lecture on syphilis the dosage of hydarg. c. creta is given as 6 to 12 "centigrammes." Why? Cannot you give the Imperial scale as well, or give the dose in grammes?

Another thing: Why does the *Journal* persist in spelling the word "develop" with a terminal "e?" Is this something new also? Or is it something very old, like "judgement" (*vide British Medical Journal* and the Bible), instead of judgment, as now written and accepted?

Yours, etc.,

October 22, 1917. O. B.

[We crave the pardon of our correspondent for so much disappointment. If he will refer to *The Medical Journal of Australia* of June 16, 1917, page 507, he will find that we asked correspondents and contributors to discard Imperial weights and measures and the Fahrenheit scale in thermometry. To give both the metric and the Imperial dosage would, in our opinion, tend to prevent the final adoption of the more rational system. In some cases contributors desire that both shall be expressed, because of the apparent difficulty in grasping the significance of metric weights and measures. We trust that this wish will not be perpetuated, for we feel convinced that it means delay in the reform. Our correspondent "O.B." has taken us very literally. When we ask for doses to be expressed in grammes, it is to be understood that the accepted metric terminology has been grasped. A centigramme is but one-hundredth of a gramme, and consequently 6 to 12 centigrammes can be expressed alternately as 0.06 to 0.12 gm. Compositors, having regard to the appearance of printed matter, object to a sentence beginning with a numeral. It would be clumsy to write the decimal out in words, and the substituion of the words "Six centigrammes" is both usual and more suitable.

The word "develope" appears in this form in Murray's *New English Dictionary*, as does the word "judgement." We endeavour to adopt the spelling given in the dictionary mentioned and in the *Rules of the Oxford Press*, the two authorities generally recognized. (See *The Medical Journal of Australia*, October 7, 1916, page 311).]

PROFESSIONAL SECRECY.

Sir,—Dr. C. H. Souter invites the opinion of subscribers to the *Journal* (October 20, 1917) on "Professional Secrecy," and cites a case.

Two cases came to mind which filled me with righteous wrath; but I was helpless, because I am a doctor, not a detective. One was where a woman had "miscarried" as the result of incestuous intercourse with her brother. The other was also an aborting woman whose husband was fighting for his country while she drew his pay and made a cuckold of him.

What could I do? The women needed help, and I could not have known the horrible circumstances unless my aid as a medical man had been sought.

Yours, etc.,

A. G. E. NAYLOR.

Lock, Victoria,
October 22, 1917.

THE REGIMENTAL MEDICAL OFFICER.

Sir,—To-day in *The Medical Journal of Australia* of June 16th I have read with interest the remarks of Lieutenant-Colonel MacLaurin re kit and general remarks. These remarks unfortunately only deal with the aspect as seen at a base hospital or a casualty clearing station, and as a guide to those men who will not be fortunate enough to secure positions on the strength of such units, perhaps a few words may be written.

The young braves of a field ambulance lead a life of relative comfort, at most times approximating that of a casualty clearing station, and, with the adequate transport facilities at the disposal of a field ambulance, a large kit can be carried.

But with regard to the hundred odd medical men, the majority married and busy practitioners in civil life, a different state of affairs exists. These men are the regimental medical officers, and they, according to a text-book authority, share all the dangers and hardships of the infantry and artillery to which they are attacked. These men are usually stationed in flimsy shelters only a few hundred yards from the enemy line, and are forced to do most of their work in the open. Their kits are limited to the infantry weight, *viz.*, summer 35 lbs., winter 50 lbs., consequently only the barest necessaries can be carried. Usually the ordinary issue tunic and breeches are worn and field boots, *i.e.*, boots and leggings combined are almost universal. The "tin hat" is invaluable, not only as a protection to the head but in the following capacities: excellent pillow, egg-boiler, seat when inverted, washbasin and even, during heavy shelling, as a urinal.

The writer recently spent 19 consecutive days in the front line, and took in the following articles, which proved quite adequate: shaving gear, ground sheet, mess tin, water-bottle, and notebook. Clothing was not removed during the whole period, and the inevitable occured, *viz.*, one became lousy.

As regards sleeping accommodation, a valise is invaluable out of the line, but impracticable whilst in the fighting zone. A few sandbags from the nearest dump, and perhaps the remains of a broken stretcher are ample.

My advice to young men coming to France is to "travel light" and without a wardrobe of uniforms. The A.I.F.

issue is the most serviceable uniform, and is insisted upon in some divisions. Provide oneself with plenty of warm underwear and socks at the expense of otherwise useless articles.

Baths are procured perhaps once a month, perhaps at longer intervals, but after the first two or three days the desire for cleanliness is lost.

We regimental medical officers, with all the inconveniences and hardships of our life, would not, I feel sure, exchange our lot with any of the men in the back areas. We all feel that we are at the heart of "the great adventure," and are happy to be doing our bit where we are most needed.

Yours, etc.,

France, R. M. O.
February 4, 1917.

Books Received.

A TREATISE ON HYGIENE AND PUBLIC HEALTH, WITH SPECIAL REFERENCE TO THE TROPICS, by Birendra Nath Ghosh, F.R.F.P.S. (Glasg.), and Jahar Lal Das, L.M.S. (Cal. Univ.), with an Introduction by Colonel Kenneth Macleod, M.D., LL.D., F.R.C.S.; Third Edition; 1917. Calcutta: Hilton & Company; Crown 8vo., pp. 397, with illustrations. Price, 6s. net.

BLOOD PICTURES: AN INTRODUCTION TO CLINICAL HÆMATOLOGY, by Cecil Price-Jones, M.B.; 1917. Bristol: John Wright & Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.; Demy 8vo., pp. 91, with 5 coloured plates and 4 illustrations in the text. Price, 6s. 6d. net.

THE THYROID GLAND IN HEALTH AND DISEASE, by Robert McCarrison, M.D., D.Sc., F.R.C.P., *Lauréat de l'Académie de Médecine*, Paris, Major, Indian Medical Service; 1917. London: Baillière, Tindall & Cox. Royal 8vo., pp. 286; illustrated. Price, 12s. 6d. net.

TEXT-BOOK OF OPHTHALMOLOGY, by Hofrat Ernst Fuchs, Professor of Ophthalmology in the University of Vienna; Authorized translation from the Twelfth German Edition, by Alexander Duane, M.D., Surgeon Emeritus, Knapp Memorial Hospital, New York. Fifth edition; 1917. Philadelphia and London: J. B. Lippincott Company. Sydney: Angus & Robertson, Limited. Royal 8vo., pp. 1067, with 462 illustrations.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. Third Series; Vol. 38; 1916. Philadelphia: Printed for the College. Royal 8vo., pp. 414.

THE PRACTICAL MEDICINE SERIES, VOL. IV., GYNECOLOGY, Edited by Emilius C. Dudley, A.M., M.D., and Sydney S. Schochet, M.D.; 1917. Chicago: The Year Book Publishers. Pp. 234. Price, 6s. net.

THE PRACTICAL MEDICINE SERIES, VOL. V., PEDIATRICS, Edited by Isaac A. Abt, M.D., and A. Levinson, M.D.; and Orthopedic Surgery, Edited by John Ridlon, A.M., M.D., and Charles A. Parker, M.D.; 1917. Chicago: The Year Book Publishers. Pp. 240. Price, 6s. net.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xviii.

Bingara District Hospital, Medical Officer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
TASMANIA. (Hon. Sec., Beltrive, Tasmania.)	Medical Officers in all State-aided Hospitals in Tasmania.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	Brunswick Medical Institute. Bendigo Medical Institute. Prahran United F.S. Dispensary. Australian Prudential Association Proprietary, Limited. National Provident Association. Life Insurance Company of Australia, Limited. Mutual National Provident Club.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Medical Officers to the Selwyn Hospital, North Queensland. Brisbane United Friendly Society Institute.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	The F.S. Medical Assoc., Incorp., Adelaide.
WESTERN AUSTRALIA. (Hon. Sec., Health Department, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance Association and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phœnix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Parramatta, Penrith, Auburn and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, N.Z.

Diary for the Month.

Nov. 3.—Vict. Branch, B.M.A., Nomination Papers for Election of Members of Council Issued.
Nov. 9.—S. Aust. Branch, B.M.A., Council.
Nov. 9.—N.S.W. Branch, B.M.A., Clinical.
Nov. 13.—Tas. Branch, B.M.A., Council and Branch.
Nov. 13.—N.S.W. Branch, B.M.A., Ethics Committee.
Nov. 14.—Vict. Branch, B.M.A., Branch.
Nov. 14.—North-Eastern Med. Assoc. (N.S.W.).
Nov. 14.—Vict. Branch, B.M.A., Nomination Papers for Election of Members of Council Returned.
Nov. 15.—Vict. Branch, B.M.A., Council.
Nov. 20.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Nov. 21.—W. Aust. Branch, B.M.A., Branch.
Nov. 21.—Western Suburbs Med. Assoc. (N.S.W.).
Nov. 23.—Q. Branch, B.M.A., Council.
Nov. 27.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Nov. 27.—Vict. Branch, B.M.A., Ballot Papers for Election of Members of Council Issued.
Nov. 28.—Vict. Branch, B.M.A., Council.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.